STIC-Biotech/ChemLib

From:

Hutzell, Paula

Sent: To:

Thursday, April 15, 2004 11:11 AM

Graser, Jennifer; STIC-Biotech/ChemLib

RE: rush search Subject:

approved

-----Original Message-----

Graser, Jennifer

Sent:

Thursday, April 15, 2004 10:03 AM

To:

Hutzell, Paula

Subject: rush search Importance: High

Hi Paula,

Could you please authorize the following rush search for an amendment which is due?

Thanks, Jennifer

STIC:

Please search SEQ ID NOs: 1; 1 (101-1176); 2; 3; 4; 5; 6; 6 (101-853); 6 (853-1176) from 10/608,504 in pending and commercial databases. They are species of one another and I need all of them searched.

Thanks, Jennifer Graser 📝 REMSEN EO3 B09/ 3C18 mailbox AU 1645 272-0858

Searcher: P. Schveiber
Phone: 272-2526 Location: Atusen EO 1 A61
Location: Rensen EO 1 AG 1
Date Picked Up:
Date Completed: 4/20
Searcher Prep/Review: 15
Clerical:
Online time: 1 D

TYPE OF SEARCH:	
NA Sequences: 7	
AA Sequences: 2	
Structures:	
Bibliographic:	_
Litigation:	
Full text:	
Patent Family:	
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VENDOR/COST (where applic.) STN:	
DIALOG:	
Questel/Orbit:	
DRLink:	
Lexis/Nexis:	
Sequence Sys.: Compa	_0
WWW/Internet:	グラ
Other (specify):	
Odici (Specify):	



STIC SEARCH RESULTS FEEDBACK FORM

Biotech-Chem Library

Questions about the scope or the results of the search? Contact the searcher or contact:

Mary Hale, Information Branch Supervisor Remsen Bldg. 01 D86 571-272-2507

VOIDITALY NESULE FEEDBEAK (CITY)
> I am an examiner in Workgroup: Example: 1610
> Relevant prior art found , search results used as follows:
☐ 102 rejection
103 rejection
☐ Cited as being of interest.
Helped examiner better understand the invention.
Helped examiner better understand the state of the art in their technology.
Types of relevant prior art found:
☐ Foreign Patent(s)
 Non-Patent Literature (journal articles, conference proceedings, new product announcements etc.)
> Relevant prior art not found:
Results verified the lack of relevant prior art (helped determine patentability).
Results were not useful in determining patentability or understanding the invention.
Comments:

Drop off or send completed forms to STIC-Biotech-Chem Library Remsen Bldg.



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Title:
Perfect score:
Sequence:
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 2000000000
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                                                                                                                                                                  Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
% Query Query Length DB l. 54.6 4.3 473 7 45 3.5 120 3.2
                                                                                      Score
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	COMMENT	MEDLINE	JOURNAL		•	AUTHORS	REFERENCE		!	ORGANISM	SOURCE	KEYWORDS	VERSION	ACCESSION	DEFINITION	LOCUS	AQ936633	RESULT 1
Center for Genomics Research Karolinska Institute 1717 Stockholm, Sweden Tel: +46-8-728-6372 Fax: +46-8-337983	Contact: Podowski RM	20175728 10710430	NotI clones in the analysis of the human genome Nucleic Acids Res. 28 (7), 1635-1639 (2000)	Li, J., Protopopov, A., Kashuba, V., Ernberg, I., Winberg, G. and Wahlestedt, C.	Xie,L., Muravenko,O.V., Kozyrev,S., Petrenko,L., SKODEIEVA,N.,	Zabarovsky, E.R., Gizatullin, R., Podowski, R.M., Zabarovska, V.V.,	1 (bases 1 to 473)	Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.	Rijkarvota: Metazoa: Chordata: Craniata: Vertebrata: Euteleostomi;	Homo sapiens	Homo sapiens (human)	GSS.	AQ936633.1 GI:7213011	sequence. AQ936633	HSJ41-905 Human NotI clones Homo sapiens genomic, genomic survey	AQ936633 473 bp DNA linear GSS 23-AUG-2000		

AQ936633 BX356664 BX376097 BX381961

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Library was constructed by Life Technologies, a division of
Invitrogen. Contact: Feng Liang Email: fliang@lifetech.com l
http://fulllength.invitrogen.com/ InvitroGen Corporation 1600
Faraday Avenue Genoscope sequence ID: CSODIO15CAO2NP1.
Location/Qualifiers
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1 (bases 1 to 1201)
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NotI site.
                                                                                                                                                                 /clone="CSODI015YB03"
/tissue_type="PLACENTA COT 25-NORWALIZED"
/clone_lib="Homo sapiens PLACENTA COT 25-NORWALIZED"
/clone_Tist strand cDNA was primed with a NotI-oligo(dT)
/note="Ist strand cDNA was primed, double-strand cDNA was
primer. Five prime end enriched, double-strand cDNA was
digested with Not I and cloned into the Not I and EcoR v
sites of the pCMVSPORT 6 vector. Library was normalized.
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/mol_type="genomic DNA"
/db_xref="taxon:9606"
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; 1 (Dases 1 to 1201)
Li,W.B., Gruber,C., Jessee,J. and Polayes,D. Full-length cDNA libraries and normalization Unpublished (2001)
Contact: Genoscope
                                                                                                                                                                                                                Similarity
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Email: seqref@genoscope.cns.fr
Library was constructed by Life Technologies, a division of
Invitrogen. This sequence belongs to sequence cluster 2866.f
Contact: Feng Liang Email: fliang@lifetech.com URL:
Chtp://fulllength.invitrogen.com/ InVitrogen Corporation 1600
Faraday Avenue Genoscope sequence ID: CSUDC022BG06QP1.
Location/Qualifiers
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BX376097 Homo sapiens NEUROBLASTOMA COT 25-NORMALIZED Homo
CDNA clone CSODC022YM12 5-PRIME, mRNA sequence.
BX376097
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                                                                                                                                           TTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAAATTAAGGGCCTC 652
                                                                                                                                                                                                                Conservative
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/tissue_type="NEUROBLASTOMA COT 25-NORWALIZED"
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/clone_Tib="Homo sapiens NEUROBLASTOMA COT 25-NORWALIZED"
/note="1st strand cDNA was primed with a NotI-oligo (dT)
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/mol_type="mRNA"
/db_xref="taxon:9606"
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9.1%; Pred. No. 2.7;
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                                                                                                               Genoscope - Centre National de Sequencage
BP 191 91006 EVRY cedex - France
Email: segref@genoscope.cns.fr
Library was constructed by Life Technologies, a division of
Invitrogen. Contact : Feng Liang Email: fliang@lifetech.com URL
http://fulllength.invitrogen.com/ InVitroGen Corporation 1600
Faraday Avenue Genoscope sequence ID : CSODIO72CCO3NP1.
Location/Qualifiers
                                                                                                                                                                                                                                           Mammalia; Eutheria; Primates; Catarrhini; Hoi (Dases 1 to 1201)
Li,W.B., Gruber,C., Jessee,J. and Polayes,D.
Full-Length cDNA libraries and normalization
Unpublished (2001)
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type="PLACENTA COT 25-NORMALIZED"
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                                                                                       organism="Homo sapiens"
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MMNBKCVMKMKMKMCCKKVMMBKMCAKKKK
                                            ATCCTTAAGCCCCTACGTGAATCACAATTT
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BX540413 AGENAE Gal BX540413 AGENAE Gal gallus cDNA clone g BX540413 65, rue de Sa Tel: +33 (0) Unpublished (2003)
Contact: Douaire M
INRA, UMR INRA-ENSAR Genetique Animale
65, rue de Saint-Brieuc, RENNES cedex,
Tel: +33 (0) 2.23.48.54.63 Construction and primary characterization multi-tissue cDNA libraries 1 (bases 1 to 692)
Herault, F., Le Meuth-Metzinger, V., Desert, C., Archosauria; Aves; Neognathae; Phasianinae; Gallus. Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Gallus gallus Klopp, C. and Douaire, M. Gallus gallus BX540413.1 GI:33294986 692 bp mRNA linear Et AGENAE Gallus gallus multitissues library (DNA clone gcab0001b.d.10 5prim, mRNA sequence (chicken) 35042, Ģ, Retout, E., FRANCE EST 28-JUL-2003 (gcab) Gallus normalized

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RESULT 6
AJ397466/c
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae;
Phasianinae; Gallus.

1 (bases 1 to 718)
1 (bases 1 to 718)
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Email: Madeleine Douaire@roazhon.inra.fr
Sequence Cleaned of vector, adaptator and repetitions. Contact us
at sigenasupport@jouy.inra.fr to obtain the chromatogram of this
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AJ397466 718 bṛ
AJ397466 dkfz426 Gallus gallus
AJ397466 71:7130433
EST. Gallus gallus (chicken)
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Seq primer: M13R.
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Plachy,J., Korn,B. et chicken bursal ESTs as a resource for the A large database of chicken bursal ESTs as a resource for the analysis of vertebrate gene function.
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                                                                                                                                                                                 Heinrich-Pette-Institute
Martinistr. 52, 20231 Hamburg, Germany
Email: URL: http://genetics.hpi.uni-hamburg.de/dt40est.html.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                            Genome Res. 10 (12), 2062-2069 (2000) 20568495
                                                                                                                                                                                                                                                                 Cellular Immunology
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de Vilvert,
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/mol_type="mRNA"
/db xref="taxon:9031"
/clone="gcab0001b.d.10"
/tissue_type="adipose tissue, granulosa, multi-tissues, oviduct, small folicule, utero-vaginal gland"
/dev_stage="adult"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                     Buerstedde JM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note="Vector: pT7T3D-pac; Clone distribution : AGENAE Resource centre. François FUMI, François.Flumi.inra.fi INRA, CEA RAdiobiologie et Etude du genome (LREG), Dome de Vilvert, 78352, Jouy-en-Josas cedex, FRANCE"
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/tissue type="Bursa of Fabricius"
/cell_type="bursal lymphocyte"
/dev_stage="2-3 weeks old"
                                                                                /organism="Gallus gallus"
/mol_type="mRNA"
/strain="CB"
/db_xref="taxon:9031"
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(gcah)"
                                                                /clone="2i7r1"
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cDNA clone 2i7r1, mRNA sequence.
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RESULT 7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; PACCAD clade; Panicoideae; Andropogoneae; Zea.

1 (bases 1 to 743)

Whitelaw,C.A., Quackenbush,J., Van Aken,S., Utterback,T., Resnick,A., Fraser,C.M., Budiman,M.A., Bedell,J.A., Rohlfing,T., Citek,R.W., Numberg,A., Robbins,D. and Lakey,N.

Consortium for Maize Genomics
Unpublished (2002)
Other_GSSs: OGUAX55TV
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CC684922
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OGUAX55TH ZM_0.7_1.5_KB
~~~~mic survey sequence.
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                                                                                                                                                                                     82;
                                                                                                                                                                                                                                                                                                                                                                                                                                               9712 Medical Center Drive,
Tel: 301-838-5843
Fax: 301-838-0208
Email: whitelaw@tigr.org
                                                                                                                                                                                                                                                                                                                                                                                                                   Seq primer: TR
Class: sheared ends.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: Cathy Whitelaw
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                                  TCGAGTTCGCCCTTTGCTCTCTCTTGTCACGC 683
                                                            GTTTCGCGGCGGCCACCCGGATCCAGCTCGGCTTCGCGAGCGCCTCTAAAGCTTCAGGTC
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ACGAGAGGGCGCTTTGCTCTCTCCCTGTCCCGC
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BU448643/c
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Archosauria; Aves; Neognathae; Galliformes; Phasianidae;
Phasianinae; Gallus.
1 (bases 1 to 756)
Boardman, P.E., Sanz-Squerro, J., Overton, I.M., Burt, D.W.,
Fong, W.T., Tickle, C., Brown, W.R.A., Wilson, S.A. and Hubb;
A Comprehensive Collection of Chicken cDNAs
Curr. Biol. 12 (22), 1965-1969 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gallus gallus (chicken)
Gallus gallus
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603211326F1 CSEQRBN13 Gallus
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CNS009WA 787 bp DNA linear GSS 03-JUN-1999 Drosophila melanogaster genome survey sequence T7 end of BAC # BACR20K04 of RPCI-98 library from Drosophila melanogaster (fruit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Contact: Simon Hubbard
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                                                                                                                                                                                                                                                          CTTGGGGCAGTTGGCCATCTGCCACCTTTGCACAAGACGAGACGTGAGACCGCAT
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/clone_TOSECREN13"
/clone=Torgan: ovary; Vector: pBluescript II KS(+); Site_1:
/note=Torgan: ovary; Vector: pBluescript II KS(+); Site_1:
/constructed from 1 million independent clones. cDNA
synthesis was initiated using an oligo(dT) primer, using
methylated C in the first strand synthesis reaction.
Following this first strand reaction, double-stranded cDNA
was blunted, ligated to NotI adapters, digested with
ECORI, size-selected, and cloned into the NotI and ECORI
compatible sites of a custom modified MCS of the
pBluescript (KS+) vector. The library was normalized in 2
rounds using conditions adapted from Soares et al., PNAS
(1994) 91: 928-9232 and Bonaldo et al., Genome Research 6
(1996): 791, except that a significantly longer
reannealing hybridization was used."
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Location/Qualifiers
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lab_host="DH10B"
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clone="ChEST191c7"
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|strain="Layer"
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s cDNA clone ChEST191c7 5', mRNA
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BP 191 91006 EVRY cedex - FRANCE (E-mail : seqref@genoscope.cns.fr - Web : www.genoscope.cns.fr)
Determination of this BAC-end sequence was carried out as part of a collaboration with the Berkeley Drosophila Genome Project (BDGP). The BDGP is constructing a physical map of the Drosophila melanogaster genome using these BACs. For further information please see http://www.fruitfly.org The BDGP Drosophila melanogaster BAC library was prepared by Kazutoyo Osoegawa and Aaron Mammoser in Pieter de Jong's laboratory in the Department of Cancer Genetics at the Roswell Park Cancer Institute in Buffalo, NY. The library is named RPCI-98 and was constructed by partial ECORI digestion of Drosophila DNA provided by the BDGP from the isogenic strain y2; cn bw sp, the same strain used for the BDGP's pl and EST libraries. A more detailed description of the library and how to order individual BAC clones, the entire library, or filters for hybridization from the BACPAC Resource Center can be location/Qualifiers

1 787
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                                                                                                                                                                                                                                                                                                                                                                                                            214 TAATTTCGCCATATGGTTATATCGGATTTTTTTTTATTGGTCCGCTGA
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AL054013
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GSS.
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1 (bases 1 to 787)
                                                                                                                                                                                                                        885 bp mRNA
BX425603 Homo sapiens NEUROBLASTOMA Homo
CLOBB022ZA07 3-PRIME, mRNA sequence.
BX425603
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Direct Submission
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Eukaryota; Metazoa; Chordata; Craniata; Verte Mammalia; Eutheria; Primates; Catarrhini; Hon 1 (bases 1 to 885)
Li,W.B., Gruber,C., Jessee,J. and Polayes,D. Full-length cDNA libraries and normalization Unpublished (2001)
                                                                                                                                    Homo sapiens
                                                                                                                                                                                                         BX425603.1
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/mol_type="genomic DNA"
/db xref="texon:7227"
/clone="BACR20K04"
/clone lib="RPCI-98"
/note="end : T7"
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45.5%; Pred
449 15;
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                                                                                             Craniata; Vertebrata; I
Catarrhini; Hominidae;
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BP 191 91006 EVRY cedex - France
Email: seqref@genoscope.cns.fr, Web: www.genoscope.cns.fr
Library was constructed by Life Technologies, a division of
Invitrogen. Contact : Feng Liang Email: fliang@lifetech.com URL
http://fulllength.invitrogen.com/InVitroden Corporation 1600
Faraday Avenue Genoscope sequence ID: CLOBB022ZA07FF1.
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                                                                                             Drosophila melanogaster genome sur
BACR12G04 of RPCI-98 library from
fly), genomic survey sequence.
AL060428
AL060428.1 GI:4943359
GSS.
Drosophila melanogaster (fruit fly)
Drosophila melanogaster
Eukaryota, Metazoa, Arthropoda, Hexapoda, Insecta, Pterygota,
Neoptera, Endopterygota, Diptera, Brachycera, Muscomorpha,
                                                                                                                                                                                                                                        CNSOOSNG
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/db_xref="taxon:9606"
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mol_type="mRNA"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1076 CCGTTGCGATTACAGTGGTGGCGCATCTTCTTGGCGGTCGACGCACCTTGTTGAGCGTTG
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BP 191 91006 EVRY cedex - FRANCE (E-mail ; segref@genoscope.cns.f:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Genoscope
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1 (bases 1 to 995)
                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 859)

NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
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5', mRNA semienta
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                                                                                                                              Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: David N. Louis, M.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
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                                                                                                                                                                                                  Unpublished (1999
                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens (human)
            CDNA Library Preparation: Life Technologies, Inc. CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLN DNA Sequencing by: Incyte Genomics, Inc. Clone distribution information Clone distribution information cound through the I.M.A.G.E. Consortium/LLNL at:
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/mol_type="genomic DNA"
/db_xref="taxon:7227"
/cbone="BACR12G04"
/clone="BACR12G04"
/clone_lib="RPCI-98"
/note="end : TET3"
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Pred. No. 12;
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sapiens cDNA clone
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Submitted (02-JUN-1999) Genoscope - Centre National de Sequencage :
BP 191 91006 EVRY cedex - FRANCE (E-mail : seqref@genoscope.cns.fr)
- Web : www.genoscope.cns.fr)
Determination of this BAC-end sequence was carried out as part of a collaboration with the Berkeley Drosophila Genome Project (BDGP).
The BDGP is constructing a physical map of the Drosophila melanogaster genome using these BACs. For further information please see http://www.fruitfly.org The BDGP Drosophila melanogaster BAC library was prepared by Kazutoyo Osoegawa and Aaron Mammoser in Pieter de Jong's laboratory in the Department of Cancer Genetics at the Roswell Park Cancer Institute in Buffalo, NY. The library is named RPCI-98 and was constructed by partial ECORI digestion of Drosophila DNA provided by the BDGP from the isogenic strain y2; cn bw sp, the same strain used for the BDGP's Pl and EST libraries. A more detailed description of the library and how to order individual BAC clones, the entire library, or filters for hybridization from the BACPAC Resource Center can be found at http://bacpac.med.buffalo.edu/drosophila_bac.htm.
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Plate: LLAM9410 row:
High quality sequence
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Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
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AL053013.1 GI:4934461
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Location/Qualifiers
1. 859
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/lab host="PHH10B (T1 phage-resistant)"
/clone_lib="NCI_CGAP_Brn64"
/note="Organ: brain; Vector: pCMV-SPORT6; Site_1: Not1;
/note="Organ: brain; Vector: pCMV-SPORT6; Site_1: Not1;
/site_2: Sall; Cloned unidirectionally. Primer: Oligo dT.
Average insert size 1.57 kb. Constructed by Life
Technologies. Note: this is a NCI_CGAP Library."
/organism="Drosophila melanogaster"
                                             Location/Qualifiers
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Pred. No. 15;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      355 CCTCGTTGTGGGCGCAGCGCCCCTGGGCGCCATCGCGCTCACCACATTGCTGGTGAACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           37;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Email: seqref@genoscope.cns.fr, Web: www.genoscope.cns.fr
Library was constructed by Life Technologies, a division of
Invitrogen. Contact: Feng Liang Email: fliang@lifetech.com URL
http://fulllength.invitrogen.com/ InVitroGen Corporation 1600
Faraday Avenue Genoscope sequence ID: CS0DI079DG08NP1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 1201)

Li,W.B., Gruber,C., Jessee,J. and Polayes,D.

Full-length cDNA libraries and normalization

Unpublished (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BX361080 Homo sapiens PLACENTA COT 25-NORMALIZED Homo sapiens CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Genoscope - Centre National de Sequencage
BP 191 91006 EVRY cedex - France
                                                                                                                                                                                                                                                                                                                                                                                                          Faraday Avenue Genoscope sequence
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Contact: Genoscope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BX361080.1 GI:30374504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         clone CS0DI079YN16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens (human)
                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGCAGCCCCACTGTTTTCCCGGCCTGATTTTCGCGGGGCTCCACCGAAATGCTGGTCATCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SSKSSASSSSVSSSGSSGVS 897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGGCTGGTCGGCGTGGCGAC 554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CSCCTCCCSYSYSSSTSSSSSTSWGSTSGSSSSSSYGTSSSSSDSTSTCCSCCCYMCTCCST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAAAACCCCCATTGCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITCTATTCGGTTTTCGCGCTTATCGACGAAGCCTACGCAGTCACTGCGGCCAGGCCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative 117;
     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /mol_type="genomic DNA"
/db_xref="taxon:7227"
/clone=BACR19D16"
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                                                                                                                      /organism="Homo sapiens"
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/clone="CS0D1079YN16"
/clone="CS0D1079YN16"
/clone="Tist strand cDNA was primed with a NotToligo(dT)
/note="lit strand cDNA was primed with a NotToligo(dT)
primer. Five prime end enriched, double-strand cDNA was
digested with Not I and cloned into the Not I and Ecor V
sites of the pCMVSPORT 6 vector. Library was normalized."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3.1%;
                           3.0%;
        147;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3-PRIME, mRNA sequence.
  Score 38.6; DI
Pred. No. 22;
47; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 39;
Pred. No.
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                                                      DB 13;
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        142;
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                                                      Length 1201;
        Indels
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877 534 817 474 757 414 697 354

RESULT 13 CNS0091P

DEFINITION

CNS0091P

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792

ORIGIN

Matches Query Match

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Conservative

Local

Similarity

REFERENCE AUTHORS TITLE

Genoscope.

rect Submission.

JOURNAL

SOURCE ORGANISM KEYWORDS VERSION ACCESSION

COMMENT

FEATURES

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825

ATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTGGAACCAGATGATAAAGGT 178

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RESULT 15
CB657749
LOCUS
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VERSION
KEYWORDS
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AUTHORS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Jantasuriyarat, C., Lu, G., Gowda, M., Hatfield, J., Zhou, B., Mazu; Kudrna, D., Dean, R., Soderlund, C., Wing, R. and Wang, G. Large-scale identification of ESTs involved in the interaction between rice and Magnaporthe grisea

Unpublished (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Oryza sativa (japonica cultivar-group)
Oryza sativa (japonica cultivar-group)
Outyza sativa (japonica cultivar-group)
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
Ehrhartoideae; Oryzeae; Oryza.

1 (bases 1 to 835)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OSJNEC13F02.f OSJNEC Oryza sativa (japonica cultivar-group) cDNA clone OSJNEc13F02 5', mRNA sequence.
CB657749
                                                                                                                                                                                                                                                                                                                                                                                                                           Arizona Genomics Institute
University of Arizona
Biological Sciences West, 448A, P.O. Box 210088, Tucson, 85721-0088, USA
Tel: 520 626 3967
Fax: 520 621 9288
                                                                                                                                                                                                                                                                          BACKWARD: gga aac agc tat gac cat g
Plate: 13 row: F column: 02
Seq primer: gta aaa cga cgg cca gtg.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CB657749.1 GI:29661474
EST.
                                                                                                                                                                                                                                                                                                                                                                                    Email: http://genome.arizona.edu
PCR PRimers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Contact: Rod Wing
                                                                                                                                                                                                                                                                                                                                                             FORWARD: gta aaa cga cgg cca gtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CB657749
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCCCACTGTTTTCCGGGCCTGATTTTCGCGGGCTCCACCGAAATGCTGGTCATCGCCCTC 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATACGGCTACGAATGGTGGGCA 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KKKKKDAAKKKKWAKKKKKAAAAKKKKKKKKKKKKKWMMMHKKKMKKMMKKKKKDMMKMM 944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TATCGGCGCTACGAAATCGCGCAAGGTCTAAAAACCTCCCTTGCTGCAGGTTTGGGCATG 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CACGTATTCTATGCGTTTTCATT 441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTTGTGGGCGCAGCGCCCTGGGCGCCATCGCGCACATTGCTGGTGAACTTCCGC 418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KOLDANAMAMAMIKKKOMHKAMAKKKKKKKKKANMAKKKKANMAKKKOKKHANAKANMAKKKKKAMAMAKKK 1064
                                                                                                                                          /organism="Oryza sativa (japonica cultivar-group)"
/mol type="mcNA"
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                                                                              /tissue_type="Leaf"
/dev_stage="3 week"
/lab_host="DH10B"
                  /clone lib="OSJNEc"
/note="Vector: pBluescript II KS +; Site_1: EcoRI; Site_2:
KhoI; 6 hrs after innoculation with Rice Blast (C9240-1)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      835 bp
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                                                                                                                                                        Query Match
Best Local S
Matches 89
                         472
199
                                                  139 ATGCCGCCGGTGTTCGACCGGATCGCGCACCTGCCGGCCTGGAACGCGCTGCT
                                                                                                                               352 ¢G¢¢¢r¢GrrerGG¢G¢G¢G¢G¢¢¢¢¢G¢G¢G¢Ar¢G¢G¢CACATTG¢TGGTGAA
                                                                                                       79
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                       ccerrrcrarrcecerrrrcececrrarceaceaaeccracecaercacreceec 525
                                                                           CTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAAAACCCCCATTGC 471
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                                                                                                                                                         Conservative
                                                                                                                                                                   51.18;
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0
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Pred. No. 28;
0; Mismatches
                                                                                                                                                                      DB 14; Length 835; 28;
                                                                                                                                                           85;
                                                                                                                                                           Indels
                                                                                                                                                           <u>.</u>.
  252
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Search completed: April 17, 2004, 20:01:40 Job time: 4123.78 secs

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Title:
Perfect score;
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 200000000
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Gapop 10.0 , Gapext 1.0
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1271
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10226.291 Million cell updates/sec
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1: gb_ba:*
2: gb_htg:
3: gb_in:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3470272 seqs, 21671516995 residues
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Copyright (c) 1993 - 2004 Compugen Ltd.
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gb_on: *
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em_htgo_hum: *
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Pred. No. is the number of results predicted by chance to have a

score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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ALIGNMENTS

JOURNAL	TITLE	AUTHORS	REFERENCE		ORGANISM	SOURCE	KEYWORDS	VERSION	ACCESSION	DEFINITION	Locus	AR391953	RESULT 1
Patent: US 6613545-A 1 02-SEP-2003;	Nucleotide sequences coding for the export of branched chain amino	Kennerknecht, N., Sahm, H., Eggeling, L. and Ffefferle, W.	1 (bases 1 to 1271)	Unclassified.	Unknown.	Unknown.	. XX	AR391953.1 GI:40115724	AR391953	Sequence 1 from patent US 6613545.	AR391953 1271 bp DNA linear PAT 18-DEC-2003		

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Kennerknecht, N., Sahm, H., Eggeling, L. and Pfefferle, W.

Nucleotide sequences coding for the export of branched cacids, process for the isolation thereof and use thereof patent: US 6613545-A 6 02-SEP-2003;

Location/Qualifiers
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Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
Corynebacterineae; Corynebacteriaceae; Corynebacterium.
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Degussa AG (DE) / FORSCHUNGSZENTRUM JUELICH GMBH (DE) Location/Qualifiers
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AX137714
AX137714.1
Corynebacterium glutamicum
Corynebacterium glutamicum
Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
Corynebacterineae; Corynebacteriaceae; Corynebacterium.
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Kennerknecht, N., Eggeling, L., Sahm, H. and Pfefferle, W. Nucleotide sequences coding for branched-chain amino a proteins, method for isolating them and their use Patent: EP 1096010-A 6 02-MAY-2001;
Degussa AG (DE) ; FORSCHUNGSZENTRUM JUELICH GMBH (DE) Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                               /translation="MORTQEIHSSLEVSPSKAALEPDDKGYRRYEIAQGLKTSLAAGI
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Matches 1271; Query Match Best Local Similarity 241 241 181 181 121 421 421 361 361 301 301 121 5 61 GCGCGATCAATGGAATCTAGCTTCATATATTGCACAATAGCCTAGTTGAGGTGCGCAAAC CCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATACGGCTACGAATGGTGGGCAGC TOGGOGOTACGAAATCGOGCAAGGTCTAAAAACCTCCCTTGCTGCAGGTTTTGGGCATGTA TGGCAACAAAACTACCCGGCAATTGTGTGATGATTGTAGTGTGCAAAAAACGCAAGAGAT GCGCGATCAATGGAATCTAGCTTCATATATTGCACAATAGCCTAGTTGAGGTGCGCAAAC TGTGGGCGCAGCGCCCTGGGGGGCATCGCGCTCACCACTTGCTGGTGAACTTCCGCCA CCCACTGTTTTCCGGCCTGATTTTCGCGGGCTCCACCGAAATGCTGGTCATCGCCCTCGT cccearrecrarrecerrrecrerrecrarrecarracescraceaarecraecasc TCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTGGAACCAGATGATAAAGGTTA TCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTGGAAACCAGATGATAAAGGTTA TGGCAACAAAACTACCCGGCAATTGTGTGATGATTGTAGTGTGCAAAAAAACGCAAGAGAT TTCGGTTTTCGCGCTTATCGACGAAGCCTACGCAGTCACTGCGGCCAGGCCGCAGGCTG CGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAAAAACCCCATTGCCCGTTTCTA CGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAAAACCCCATTGCCCGTTTCTA rerecececacione de la recece de la recece de la recenta de cccacrerrrrcceeccrearrrrceceeecrecacceaaaarecreercarceccreer TCGGCGCTACGAAATCGCGCAAGGTCTAAAAACCTCCCTTGCTGCAGGTTTGGGCATGTA 100.0%; milarity 100.0%; Conservative 0 0 Score 1271; Pred. No. 0; Mismatches 0 Indels 0 Gaps 180 480 480 420 420 360 360 300 300 240 240 180 120 120 60 540

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BD014991.1 GI:22555798

JP 2001169788-A/1.

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Rennerukunehito,N., Sahm,H., Eggering,L. and Pfefferle,W. Nucleotide sequence encoding the discharge of branched ammethod of isolating the same and utilization thereof Patent: JP 2001169788-A 1 26-JUN-2001;
DEGUSSA HUELS AG,FORSCHUNGSZENTRUM JUELICH GMBH OS Corynebacterium glutamicum ATCC14752
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24-OCT-2000 JP 2000324315
27-OCT-1999 DE 19951708.8
NICOLE KENNERUKUNEHITO, HERMANN SAHM, LOTHAR
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PD 26-JUN-2001 PF 24-CCT-1909 DE 19951708.8 PR 27-CCT-1999 DE 19951708.8 PI NICOLE KENNERUKUNEHITO, HERMANN SAHM, LOTHAR EGGERING, WALITER PI PEPEPERLE PC (C12N15/09, C07K14/34, C12N1/21, C12P13/06, C12P13/06, C12P13/06, C12R1:15), C12N15/09, C12R1:15), (C12N1/21, C12R1:15), (C12P13/06, C12R1:15), CC brne CC brne CC brne CC brne FH Key Location/Qualifiers		6 4 BD014994 BD014994 1271 bp DNA linear PAT 27-AUG-2002 ION Nucleotide sequence encoding the discharge of branched amino acid, method of isolating the same and utilization thereof. CN BD014994 GI:22555801 S UP 2001169788-A/4. unidentified	1261 CAGACAGCGCT 1271 1261 CAGACAGCGCT 1271	1201 CCGCATGCCCTCAATTTGAAGGGGATGCGGATTTTTTAAGGAACCTAGAAAAGGCTTAAG 1260	141 141	1081 GCGATTACAGTGGTGGCGCATCTTCTTGGCGGTCGACGCACCTTGTTGAGCGTTGGCGCT 1140	1021 TCAACGTTTCGCAGCAATGCGATAGATCTGAAGACTCTAACCTTTTGGTCTCATTGCCGTT 1080	961 CAATTTGTGGGCAAAATGGCGATGTGGATGCCAGGAAGGA	901 GTCATTACTTTTGCGCTCCGGGCGGTTCCGTTCTTAATCCTTAAGCCCCTACGTGAATCA 960	841 AAAGGCTGCTAAATGACCAACTGATTTCTCCTGTATTCTCCCTTGTTGTCGCAGTATGTGCA 900	721 TTCTCTGCTGCTGCAGGTTTGAGCTTCACCATTGCTCTTGTGGTAATTCCAGGTCAGGC 780
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	661 601 601	Qy 421 CGTATTCTATGCGTTTTCATTCCGCTGCATGCGATGATGCCCTATTGCCCGTTTCTA 421 CGTATTCTATGCGTTTTCATTCCCGCTGCATGTGATGCCCATTGCCCGTTTCTA 481 TTCGGTTTTCGCGCTTATCGACGAAGGCCTACTGCGGCAGGCCAGGCCGCAGGCTG 540 TTCGGTTTTCGCGCTTATCGACGAAGCCTACGCAGTCACTGCGGCCAGGCCGCAGGCTG 540 TTCGGTTTTCGCGCTTATCGACGAAGCCTACGCAGTTACTGCGAGGCCAGGCCCGCAGGCTG 541 GTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCACTCCTACTGGGTATTCGGCGG 541 GTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCACTCCTACTGGGTATTCCGCGG 541 GTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCACTCCTACTGGGTATTCCGCGG 541 GTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCACTCCTACTGGGTATTCCGCGG 542 GTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCACTCCTACTGGGTATTCCGCGG 544 GTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCACTCCTACTGGGTATTCCGCGG 545 GTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCACTCCTACTGGGTATTCCGCGG 546 GTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCACTCCTACTGGGTATTCCGCGG 547 GTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCACTCCTACTGGGTATTCCGCGG 547 GTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCACTCCTACTGGGTATTCCGCGG 548 GTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCACTCCTACTGGGTATTCCGCGG 549 GTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCACTCCTACTGGGTATTCCGCGG 540 GTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCACTCCTACTGGGTATTCCGCGG 600 GTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTTCACTCCTACTGGGTATTCCGCGG 600 GTCGGCGTGGCACTTATCTCAATGCAAATAGCCTTTTCACTCCTACTGGGTATTCCGCGGG 600 GTCGGCGTGGCAACTTATCTCAATGCAAATAGCCTTTTCACTCCTACTGGGTATTCCGCGGG 600 GTCGGCATGCAATGCAAATAGCAATTATCCAATGCAAATTAGCGTTTCACTCCTACTGGGTATTCCACTCCTACTGGGTATTCCACTCCTACTGGGTATTCCACTCCTACTGGCGTATTCCACTCCTACTGGCGTATTCCACTCCTACTGGGTATTCCACTCCTACTGGCGTATTCCACTCCTACTGGCGTATTCCACTCCTACTGGCGTATTCCACTCCTACTGGCGTATTCCACTCCTACTATTCCACTCCTACTATTCCACTCCTACTA	Qy 361 TGTGGGCGCAGCGCCCTGGGCGCCATCGCTCACAATTGCTGGTGAACTTCCGCCA 420 Db 361 TGTGGGCGCAGCGCCCCTGGGCGCCACACACTTGCTGGTGAACTTCCGCCA 420		GCAGC 3	QY 181 TCGGCGCTACGAAATCGCGCAAAGGTCTAAAAACCTCCCTTGCTGCAGGTTTGGGCATGTA 240		OY 61 TGGCAACAAACTACCCGGCAATTGTGTGATGATTAGTGTGCAAAAAAACGCAAGAGAT 120	OY 1 GCGCGATCAATGGAATCTAGCTTCATATATTGCACAATAGCCTAGTTGAGGTGCGCAAAC 60		FT gene (101)(853) FEATURES FT Gene (853)(1176). Location/Qualifiers 1.1271 organism="unidentified" /mol_type="genomic DNA" /db_xref="taxon:32644" ORIGIN

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This sequence is conducted by collaboration of Kyowa Hakko Kogyo Co. Ltd. And Kitasato University.
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Corynebacterium glutamicum ATCC 13032
Bacteria, Actinobacteria, Actinobacteridae, Actinomycetales,
Corynebacterineae, Corynebacteriaceae, Corynebacterium.
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Corynebacterium glutamicum ATCC
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AP005274.1 GI:21322764
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Direct Submission
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GLEAVRKRPGMYIGSTGPRGLHHLIWEVVDNS VDEAMAGHATKVEVTILLEDGGVQVVD
GGRGIFVDMHPSGAFTVQVVMTQLHAGGKFDSDSYAVSGGLHGYGISVVNALSTRVEA
DIKLHGKHWYQNEEKSVPDELIEGGNARGTGTTIR FWPDAEIFETPDFETISRRLQ
EMAFLUNGLTITITDNRATDEBLELELALAEQGETATELSLDEIDMETELVEETTDAFK
KPKKREKKLTHYPNGLEDYVHYLHNESKTNIHPSIVSFEAKGDDHEVEVAMQWASSYK
ESVHTFANTINTREGGTHEEGFRSALTSLMNRYAREHKLLKEKEANLIGDDÉREGLSA
VISURVGDOPEGGTKTYKLGNTSIKSFVQRMANBHIGHHLEANPAEKKVIINKAVGSA
QARLAARKARDLVRRKSATDLGGLPGKLADCRSKDPEKSELYIVEGDSAGGSAKSGRD
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SMFQALIPLRGKILNVEKARLDKYLKNABVGAITTMDPTVRILRRVDITDAQRADE
EQLNEGLAAGRKINKDDGIQRYKGLGEMVALAGPELYETYMDPTVRILRRVDITDAQRADE
LFSILMGDDVVAARRSFITRNAKDVRFLDI"
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5354. .7489
/gene="Cg10006"
/EC_number="5.99
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QHTRVBMIKDKKLFITCDSTAWATNLRWMQRQILQVIAEKVGPNIITELRIFGPQAPS
WRKGPLHYKGRGPRDTYG"
5354. . 7489
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PF00986:DNA gyrase B subunit, carboxyl terminus
PF01751:Toprim domain
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TIGR01058:parE_Gpos: DNA topoisomerase IV,
TIGR01059:gyrB: DNA gyrase, B subunit"
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7830. .879
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                                                                                                                                                                                                                                                                                                                    /translation="manphkkpldpaqreslptrwampfygjftmsfaigitvhaglg
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FPNVBFGTMKQIVDWTFVSVAAILSWITMGGLIGVREGTVFAAFFIGFFVRQWRKLYL
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                                                                                                                                                                     complement (9471. .9914)
/gene="Cg10009"
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/gene="Cg10008"
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               /Codon_start=1
/(rrans] table=11
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/db_xref="GI=21322773"
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CCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGTTGACCATCCGGTACT
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VADKNAESINVPGLGKVYKGVRGKAAKVIEQELPAIGQLIEKNAQ"
Complement (10104. .11177)
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Query Match 100.0%; Score 1271; DB 6; Length 349980; Best Local Similarity 100.0%; Pred: No. 0; Matches 1271; Conservative 0; Mismatches 0; Indels 0; Gaps 0; Matches 1271; Conservative 0; Mismatches 0; Indels 0; Gaps 0; 276729 1 GCGCGATCAATGGAATCTAGCTTCATATATTGCACAATAGCCTAGTTGAGGTGCGCAAAC 2767 Db 276729 GCGCGATCAATGCAATCTAGCTTCATATATATTGCACAATAGCCTAGTTGAGGTGCGCAAAAC 2767 Oy 61 TGGCAACAAACTACCCGGCAATTGTGTGTAGTTGTAGTGTGCAAAAAAACGCAAGAGAT 120	round Carting Satisfaction of the right of t	27798 27798 120085 CUS CUS CESSION RSION RSION RSION RSION RSION	Qy 901 GTCATTACGTTTTGCGCTCCGGGCGGTTCCTTAATCCTTAATCCTAATGGCA 277628 Qy 901 GTCATTACTTTTGCGCTCCGGGCGGTTCCTTAATCCTTAAGCCCCTACGTAATGACAACAAAATTTCTCCGTTAATCCTTAAGCCCCTACGTAATGACAACAAAATTTCTCCGGTTCTTAAGCCCCTACGTAATGACAACAAAATTTCTCCGGGCGGTTCCTAAGCCCTACGTGAATCA 277628 Qy 961 CAATTTGTGGGCAAAATGGCGATGTGGATGCCAGGAATCCTTAAGCCCCTACGTGAATCA 277688 Qy 961 CAATTTGTGGGCAAAATGGCGATGTGGATGCCAGGAATCCTTAAGCCCCTACGTGAATCA 277688 Qy 1021 TCAACGTTTCGCCAGCAAATGGCGATGTGAAGCTCTAACCTTTGACCGCA 277748 Qy 1021 TCAACGTTTCGCCAGCAATGCGATGTGAAGACTCTAACCTTTGACCGCT 1080 Qy 1081 GCGATTACAGTGGGGCATGCGATAGACTCTAACCTTTGGTCTCATTGCCGTT 277808 Qy 1081 GCGATTACAGTGGGGGATGCGATCTTGAAGACTCTAACCTTTGACCGCT 277808 Qy 1081 GCGATTACAGTGGGGGCATCTTCTTGGCGGTCGACCTTTGTGACCGCT 277808 Qy 1141 GCCACCATCGTTTTTTTTTTTTTGAAGCGCTCAAAACTTCTTTTTTTT
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b 277749 TCAACGTTTCGCAGCAATGCAGTGAAGACTCTTAAACGTTTGGCGTT 277808 1081 GCGATTACAGTGGTGGCGCATCTTCTTGGGGGTCGACGCACCTTGTTGAGCGTTTGGCGCT 1140 y 1081 GCGATTACAGTGGTGGCGCATCTTCTTGGCGGTCGACCCTTGTTGAGCGTTGGCGCT 1140 b 277809 GCGATTACAGTGGTGGCGCATCTTCTTTGGCGGTCGACCCTTGTTGAGCGTTGGCGCT 277868 y 1141 GGCACCATCGTTTTTGTTGGACTGGTGAATCTTTTCTAAAACTTGCATAAATAA	781 CCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGTTGACCATCCGGTACTTCTTCTTCTTTGGTCGTACTATTTTGCGGCGCTGCTGATCTTTTTGTTTG	601 TCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAAATTAAGGGCCTCGAGTTCGC 660	276849 TCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTGGAACCAGATGATAAAGGTTA 276908 181 TCGGCGCTACGAAATCGCGCAAAGGTCTAAAAACCTCCCTTGCTGCAGGTTTTGGGCATGTA 240 276909 TCGGCGCTACGAAATCGCGCAAAGGTCTAAAAACCTCCCTTGCTGCAGGTTTTGGGCATGTA 276968 221 CCCGATTGGTATTGCGTTTTGGTCTTTGGTTATTCAATACGGCTACGAATGGTGGCAAGC 300 2276969 CCCGATTGGTATTGCGTTTTTCGGGGCTTCATTTCAATACGGCTACGAATGGTGGCCAGC 277028 301 CCCACTGTTTTCCGGCCTGATTTTCGCGGGCTCCACCGAAATGGTGGCCAGC 277028 361 TGTGGGGCCAGCGCCCTGATTTTCGCGGGCTCCACCGAAATGGTGGAACTTCCGCCA 420 277029 CCCACTGTTTTCCGGGCCCTGGATTTTCGCGGCTCACCACATTGCTGGTGAACTTCCGCCA 420 277089 TGTGGGGCCAGCGCCCCTGGGCGCCATCGCCCTCACCACATTGCTGGTGAACTTCCGCCA 277148 277149 CGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAAAACCCCATTGCCGGTTTCTA 480 2771209 TTCGGTTTTCGGCGCTTATCCAGCAGTTGCTGAAAAACCCCATTGCCGCAGGCTGAACTTCCGCCA 277209 541 TTCGGTTTTTCGCGCCTTATCCAGCAGAGCCTAAAAAACCCCATTGCCGCAAGGCTGAGCTTCTA 277209 541 GTCGGTTTTCGCGCCTTATCCAGAAGCCCTAAAAAACCCCAATGCCGCAGGCTG 540 277269 GTCGGCTGAACTTATCCAAAAAACCCCAATTCCGGCAAGGCCGAAGCTG 540 277269 GTCGGTTATCGAACTAAAAACCAAAAAACCCCAATTCCGCGAAGCTG 540 277269 TTCGGTTTTCGCGCTTATCCAAAAAACCAAAAAACCCCAATTCCGCGAAGCTG 540 277269 GTCGGCTGAACTTATCCAAAAAAAAAAAAAAACCCCAATTGCCGAAGCCCGAAGCTG 540 277269 GTCGGTTATCGAACAAAAAAAAAAAAAAAAAAAAAAAAA

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RESULT 9
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regulator (lrp) genes, complete
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Corynebacterineae; Corynebacteriaceae; Corynebacterium.

1 (bases 1 to 2105)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Export of L-isoleucine from Corynebacterium glutamicum: two-gene-encoded member of a new translocator family J. Bacteriol. 184 (14), 3947-3956 (2002)
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/gene="brnE"
/gene="lrp"
1538.,1993
/gene="lrp"
/note="Lrp"
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MMPAGILAILTASTFRSNAIDLKTLTFGLIAVAITVVAHLLGGRRTLLSVGAGTIVFV
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/db_xref="GI:21311381"
                                                                                                                                                                                                                                                         /note="LIV-E transporter acid export protein"
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                                                                                                                                                                                 TTOTCTGCTGCTCGCAGGTTTGAGCTTCACCATTGCTCTTGTGGTAATTCCAGGTCAGGC
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GCGCGATCAATGGAATCTAGCTTCATATATTGCACAATAGCCTAGTTGAGGTGCGCAAAC CCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATACGGCTACGAATGGTGGGCAGC TCGGCGCTACGAAATCGCGCAAGGTCTAAAAAACCTCCCTTGCTGCAGGTTTGGGCATGTA TCGGCGCTACGAAATCGCGCAAGGTCTAAAAACCTCCCTTGCTGCAGGTTTTGGGCATGTA TCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTGGAACCAGATGATAAAGGTTA TCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTGGAACCAGATGATAAAGGTTA TGGCAACAAAACTACCCGGCAATTGTGTGATGATTGTAGTGTGCAAAAAACGCAAGAGAT GCGCGATCAATGGAATCTAGCTTCATATATTGCACAATAGCCTAGTTGAGGTGCGCAAAC /trānslation="MKLDSIDRAIIAELSANARISNLALADKVHLTPGPCLRRVQRLE AEGIILGYSADIHPAVMNRGFEVTVDVTLSNFDRSTVDNFESSVAQHDEVLELHRLFG SPDYFVRIGVADLEAYEQFLSSHIQTVPGIAKISSRFAMKVVKPARPQV" Length 2105; Indels <u>.</u> 1324 1384 180 1444 1264 120 1504 300 240 60

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                          ATGCTGGTCATCGCCCTCGTTGTGGGCGCCAGCGCCCTGGGCGCCATCGCGCTCACCACA
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                                                                                                                                                                                                                                                             59.2%; Scilarity 100.0%; F
Conservative 0;
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/mol_type="genomic"
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Corynebacterium glutamicum
Corynebacterium glutamicum
Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
                                                                                                                                                                                                                                                                           Nakagawa,S., Mizoguchi,H., Ando,S., Hayashi,M., Ochiai/K., Yokoi,H., Tateishi,N., Senoh,A., Ikeda,M. and Ozaki,A., Novel polymuclectides
Patent: EP 1108790-A 289 20-JUN-2001;
KYOWA HAKKO KOGYO CO., LTD. (JP)
Location/Qualifiers
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                          GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTTGGTCTTTGGTTATTCAATAC
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                                                                                                                                                                                                                       /organism="Corynebacterium
/mol_type="unassigned DNA"
/db_xref="taxon:1718"
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Degussa AG (DE); FORSCHUNGSZENTRUM JUELICH GMBH (DE) Location/Qualifiers
                                                                                                                                                                                                                                                                   Corynebacterium glutamicum
Corynebacterium glutamicum
Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
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/note="unnamed protein product; brnf"
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/trans1_table=11
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/mol_type="unassigned DNA"
/db_xref="taxon:1718"
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VNFRHYFYAFSFPLHYVKNPIARFYSVFALIDBAYAVTAARPAGWSAWRLISMQIAFH SYWVFGGLTGVAIAELIPFEIKGLEFALCSLFVTLTLDSCRTKKQIPSLLLAGLSFTI ALVVIPGQALFAALLIFLGLLTIRYFFLGKAAK"

Query Match 59.2%; Best Local Similarity 100.0%; Matches 753; Conservative 101 GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCCATCCAAGGCAGCCCTG grigoaaaaaacecaaeaarroarroaaectregaeerercecarcoaaeecaeccre GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAAACCTCCCTT ddcracdaarddreddadccccacrorrrrccdddcrarrrrccdddddcracdaa GGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGCCTGATTTTCGCGGGCTCCACCGAA GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC GAACCAGATGATAAAGGTTATCGGCGCGCTACGAAATCGCGCGCAAGGTCTAAAAAACCTCCCTT AACCCCATTGCCCGTTTCTATTCGGTTTTCGCGCTTATCGAAGCCTAACGCAGTCACT TIGCIGGIGAACTICCGCCACGTATICTAIGCGTTTICATICCGCCIGCAIGIGGICAAA ATGCTGGTCATCGCCCTCGTTGTGGGCGCAGCGCCCCTGGGCGCCATCGCGCTCACCACA ATGCTGGTCATCGCCCTCGTTGTGGGCGCAGCGCCCCTGGGCGCCATCGCGCTCACCACA GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTTGGTCTCTTGGTTATTCAATAC ATCCGGTACTTCTTCTTGGGAAAGGCTGCTAAA 853 ATTAAGGGCCTCGAGTTCGCCCTTTGCTCTCTTTGTCACGCTGACTTTGGATTCCTGC TCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAA ĠĊĠĠĊĊĄĠĠĊĊĊĠĊĄĠĠĊŤĠĠŤĊĠĠĊĠŤĠĠĊĠĄĊŤŤĄŤĊŤĊĄĄŤĠĊĄĄĸŦŔĠĊĠŦŦŤĊĄĊ GCGGCCAGGCCGCAGGCTGGTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCAC <u> AACCCCATTGCCCGTTTCTATTCGGTTTTTCGCGCTTATCGACGAAGCCTACGCAGTCACT</u> rrecreereaactrececcaceratrerarecertrecatreceectecatereeraa GTGGTAATTCCAGGTCAGGCCCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGITGACC cgaacgaaaaagcagarcccrrcrcrcrccccccagcrrrcagcrrcagcrrcaccarrccrrr CGAACGAAAAAGCAGATCCCTTCTCTGCTGCTGCTGCAGGTTTGAGCTTTCACCATTGCTCTT ATTAAGGGCCTCGAGTTCGCCCTTTGCTCTCTTTGTCACGCTGACTTTGGATTCCTGC Score 753; DB 6; Lo; Pred. No. 3.3e-196; 0; Mismatches 0; Length Indels 0 Gaps 180 120 220 60 160 300 400 240 340 280 820 660 760 600 700 540 640 480 580 420 520 360 460 720 0

Nucleotide sequence encoumethod of isolating the EBD14992 BD014992.1 GI:22555799 BD014992.1 GI:2255799 GP 2001169788-A/2. unidentified unidentified unclassified. BD014992 753 encoding the same bp DNA linear PAT 27-AUG-2002 the discharge of branched amino acid, and utilization thereof.

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OS Corynebacterium glutamicum ATCC14752
PN JP 2001169788-A/2
PD 26-JUN-2001
PF 24-CCT-2000 JP 2000324315
PR 27-CCT-1999 DE 19951708.8
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C C12N15/00,
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Location/Qualifiers
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/mol_type="genomic DNA"
/db_xref="taxon:32644"
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Novel polymucleotide
Patent: JP 2002191370-A 289 09-JUL-2002;
KYOWA HAKKO KOGYO CO LTD
OS COTYNEBACTERIUM GILTAMICUM
PN JP 2002191370-A/289
PD 09-JUL-2002
PF 15-DEC-2000 JP 2000405096
PI SATOSHI NAKAGAWA, HIROSHI MIZOGUCHI, SE:
PI KEIKO OCHIAI,
PI HARUHIKO YOKOI, NAOKO TATEISHI, AKIHIRO
                                                                                                                                                                  161 GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAAACCTCCCTT
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Nakagawa, S., Mizoguchi, H., Ando, S.,
Yokoi, H., Tateishi, N., Senoo, A., Ik
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                                                                   GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC
                                                                                                                             GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAAACCTCCCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C12N1/15,
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GGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGCCTGATTTTCGCGGGCTCCACCGAA
                                                                                                                                                                                                              GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG
                                     GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C12N1/19,C12N1/21,C12N5/10,C12N9/00,C12N9/02,C12P7/40,C12P13/
04,C12P13/08,
C12P19/00,C12P19/34,C12P21/02,C12Q1/37,C12Q1/68,G01N33/53, PC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     G01N33/569,G01N33/68,G01N37/00//C12P21/08,(C12N1/21,C12R1:15),(C12N1/21,C12R1:15),(C12N1/21,C12R1:15),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15-DEC-2000 JP 2000405096
SATOSHI NAKAGAWA, HIROSHI MIZOGUCHI, SEIKO ANDO, MIKIO HAYASHI,
KEIKO OCHIAI,
                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C12N15/00, C12N15/00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HARUHIKO YOKOI, NAOKO TATEISHI, AKIHIRO SENOO, MASATO IKEDA, AKIO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Novel polynucleotide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2N15/09,C12N15/09,C07K14/34,C07K16/12,C07K16/40,C12M1/00,
                                                                                                                                                                                                                                                                                                                                                                                                        /organism="unidentified'
/mol_type="genomic DNA"
/db_xref="taxon:32644"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism='Corynebacterium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GI:27868248
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100.0%;
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                                                                                                                                                                                                                                                                                               Score 753; DB 6; L
Pred. No. 3.3e-196;
); Mismatches 0;
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    Hayashi, M., Ochi
    Ikeda, M. and Ozaki,

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<u></u>		, ;
	9 ANTGGAATCTAGCTTCATATATTGCACAATAGCCTAGTTGAGCTGCGCAAAACTGGCAACA 68	문 원
	Query Match 28.8%; Score 365.6; DB 6; Length 397; Best Local Similarity 98.9%; Pred. No. 2e-89; Matches 368; Conservative 0; Mismatches 4; Indels 0; Gaps 0;	3 80
	/organism="Corynebacterium glutamicum" /mol_type="unassigned DNA" /db_xref="taxon:1718" /note="lrp-Teil 1"	ORI
	JTHORS Moeckel, B ITLE Nucleotid DURNAL Patent: E Degussa A TURES	AI T: J(
	URCE Corynebacterium glutamicum ORGANISM Corynebacterium glutamicum Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales; Corynebacterineae; Corynebacteriaceae; Corynebacterium. FERENCE 1	SOURCE ORGA REFERE
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	821 ATCCGGTACTTCTTGGGAAAGGCTGCTAAA 853	Ş
	761 GIGGTAATTCCAGGTCAGGCCCTATTTGCGGCGCIGCTGATCTTCTTGGGTCTGTTGACC 820	\$ \$
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	701 CGAACGAAAAAGCAGATCCCTTCTCTGCTGCTGCTGGCAGGTTTGAGCTTCACCATTGCTCTT 760	Ş
	641 ATTAAGGGCCTCGAGTTCGCCCTTTGCTCTCTTTTGTCACGCTGACTTTGGATTCCTGC 700	B 성
	581 TCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAA 640	B 8
	521 GCGGCCAGGCCGCAGGCTGGTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCAC 580	B 8
	461 AACCCCATTGCCGTTTCTATTCGGTTTTCCCGCTTATCGACGAAGCCTACGCAGTCACT 520	B 8
	TIGCTGGTGAACTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAA	D 5
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16 CACGCCCCGGG 5	369 CAGCGCCCTCG 380	76 TTTCCGGCCTGATTTTCGCGGGCTCCACCGAAATGCTGGTCATCGCCCTCGTTGTGGGCG 17	309 TTTCCGGCCTGATTTTCGCGGGCTCCACCGAAATGCTGGTCATCGCCCTCGTTGTGGGCG 368	136 GTATTGCGTTTGGTTATTCAATACGGCTACGAATGGTGGCAGCCCACTGT 77	249 GTATTGCGTTTGGTCTTTGGTTATTCAATACGGCTACGAATGGTGGGCAGCCCCACTGT 308	196 ACGABATCGCGCAAGGTCTBABABACCTCCCTTGCTGCAGGTTTGGGCATGTBCCCCGATTG 137	189 ACGAAATCGCGCAAGGICTAAAAACCTCCCTTGCTGCAGGTTTGGGCATGTACCCGATTG 248	256 GCTGGAGGTGTCGCCATCCAAGGCAGCCCTGGAACCAGATGATAAAGGTTATCGGCGCT 197	129 GCCTGGAGGTGTCGCCATCCAAGGCAGCCCTGGAACCAGATGATAAAGGTTATCGGCGCT 188	

Search completed: April 19, 2004, 18:29:50 Job time : 5394 secs

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Post-processing: Minimum Match 0%
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Listing first 45 summaries
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1271
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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Description	Aah21109	Aah21112	Aah64966	Aah21110	Aah65254	Aca01969	Aaf61693	Aaf61695	Aah21111	Aah65255	Aca01970	Aaf61688	Aca01968	Aah68373	Aca01294	Aah68534	Ada71938	Aaa10594	Ade59610	Aaq86927	Adc91639	Aaa10595	Aah55683
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		<pre>brnE; branched-chain amino ac isoleucine; valine; medicine;</pre>	brnE.					ALIGNMENTS			J1 F	- •						7						٠,	7 20			
2	- >	mino acid; dicine;							Aaq36952	Adb13462	Acc94996	Abs58541	AABIUUII	Aca59269	Aah84682	Aah02433	Aah93368	Abs71157	Aaa06252	Aav61146	ACG#2200	Ada71938	Abx66366	Acf65382	Continuat	Date 0 110	f 6 6 1 5	
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Sg 02-MAY-2001. EP1096010-A1. /product= "brnF" 853. .1179 /*tag= b /*tag= b /product= "brnE"

WPI; 2001-391595/42. P-PSDB; AAB86247, AAB86248. Kennerknecht N, Eggeling L, Sahm H, Pfefferle W;

27-OCT-1999;

(DEGS) DEGUSSA AG. (KERJ) FORSCHUNGSZENTRUM.JUELICH GMBH. 99DE-01051708. 11-OCT-2000; 2000EP-00122057.

New export genes from coryneform bacteria, useful for increasing fermentative production of branched-chain amino acids.

Claim 4 (i); Page 13; 23pp; German.

This invention describes a novel isolated polynucleotide (I) containing

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cc at least one sequence that (i) is 70% identical with a sequence that cc encodes at least one of 251 amino acid (aa) (3) or 108 aa (5) cc polypeptides; (ii) encodes a polypeptide at least 70% identical with (3) cc or (5); (iii) is the complement of (i) or (ii), or (iv) contains at least 15 consecutive bases from (i)-(iii). The invention also describes (a) cc protein derived from sequences of 753 by (2) or 324 by (4); (b) cc coryneform microorganisms, especially Corynebacterium, transformed with cc one or more (1), where these are replicative DNA; (c) production of Dranched-chain L-aa by fermentation of coryneform bacteria in which the brnE and/or brnF genes (or equivalent sequences) are amplified, cc especially overexpressed; and (d) method for isolating the brnE and/or brnF genes. (I) is used for transformation of coryneform bacteria being used for fermentative production of branched-chain amino acids, cand animal nutrition. (I) can also be used as source of primers and probes for isolation of related sequences. Transformation with (I) corynebacterium glutamicum ANCC 14752 brnF and brnE proteins described in the method of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 100.
Matches 1271; Conservative
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                                                                                              TCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAAATTAAGGGCCTCGAGTTCGC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C. glutamicum
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     27-OCT-1999;
                                                      11-OCT-2000;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           nutrition; ds.
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                                                         2000EP-00122057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DNA encoding brnF and brnE
     99DE-01051708
                                                                                                                                                                                                                                                                 /product= "brnF"
853. .1179
                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
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/product= "brnE"
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This invention describes a novel isolated polynuclsotide (I) containing containing at least one sequence that (i) is 70% identical with a sequence that (containing the condess at least one of 251 amino acid (aa) (3) or 108 aa (5) consequence; (ii) encodes a polypeptide at least 70% identical with (3) cor (5); (iii) is the complement of (i) or (ii), or (iv) contains at least 15 consecutive bases from (1)-(ii1). The invention also describes (a) corynetorm microorganisms, especially Corynebacterium, transformed with contains at least (2) or 24 bp (4); (b) corynetorm microorganisms, especially Corynebacterium, transformed with contain L-aa by fermentation of coryneform bacteria in which the coryne or more (I), where these are replicative DNA; (c) production of coryne amplified, contain L-aa by fermentation of coryneform bacteria in which the bring and/or bring genes (or equivalent sequences) are amplified, coryneform sectoria, and (d) method for isolating the bring cused for fermentative production of branched-chain amino acids, specifically leucine, isolaccine and valine, which are useful in medicine and animal nutrition. (I) can also be used as source of primers and corynebacterium gintamicum ancolous. This sequence encodes the corynebacterium gintamicum ancolous bring and bring proteins described in the archival of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches 1271;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 4 (i); Page 17-18; 23pp; German
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            method of the invention
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FORSCHUNGSZENTRUM JUELICH GMBH
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                                                                                                  CGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAAAAACCCCCATTGCCCGTTTCTA
                                                                                                                                                                                    TGTGGGGGGGGGGCGCCATCGCGCTCACCACATTGCTGGTGAACTTCCGCCA
                                                                                                                                                                                                                        TGTGGGCGCAGCGCCCTGGGCGCCATCGCGCTCACCACATTGCTGGTGAACTTCCGCCA 420
                                                                                                                                                                                                                                                                                                          CCCACTGTTTCCGGGCCTGATTTTCGCGGGCTCCACCGAAATGCTGGTCATCGCCCTCGT
                                                                                                                                                                                                                                                                                                                                                              CCCACTGTTTTCCGGCCTGATTTTCGCGGGGCTCCACCGAAATGCTGGTCATCGCCCTCGT 360
                                                                                                                                                                                                                                                                                                                                                                                                                                   CCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATACGGCTACGAATGGTGGGCAGC
TTCGGTTTTCGCGCTTATCGACGAAGCCTACGCAGTCACTGCGGCCAGGCCCGCAGGCTG
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Pred. No. 0;
0; Mismatches
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Tateishi
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L-amino acid production; brnF; coryneform bacterium; leucine;

brnE; branched-chain amino isoleucine; valine; medicir

acid;

nutrition; ds.

Corynebacterium glutamicum

C. glutamicum

brnf DNA.

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This invention describes a novel isolated polynucleotide (I) containing at least one sequence that (i) is 70% identical with a sequence that (c) encodes at least one of 251 amino acid (aa) (3) or 108 aa (5) co polypeptides; (ii) encodes a polypeptide at least 70% identical with (3) or (5); (iii) is the complement of (i) or (ii), or (iv) contains at least (c) or (5); (iii) is the complement of (i) or (ii), or (iv) contains at least (c) protein derived from sequences of 753 bp (2) or 324 bp (4); (b) coryneform microorganisms, especially Corynebacterium, transformed with one or more (I), where these are replicative DNA; (c) production of coryneform bacteria in which the brnB and/or brnF genes (or equivalent sequences) are amplified, (c) especially overexpressed; and (d) method for isolating the brnB and/or brnF genes (I) is used for transformation of coryneform bacteria being used for fermentative production of branched-chain amino acids. (c) specifically leucine, isoleucine and valine, which are useful in medicine and animal nutrition. (I) can also be used as source of primers and corpnesses yield of branched-chain amino acids. This sequence encodes the method of the invention
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100.0%; Pred. No. 1.3e-230;
tive 0; Mismatches 0;
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                                                                                                                    Coryneform bacterium; amino organic acid synthesis; ds.
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XX AAH6
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PR 10--1 16-DEC-1999; 07-APR-2000; 03-AUG-2000; 18-DEC-2000; 2000EP-00127688 ; 99JP-00377484. ; 2000JP-00159162. ; 2000JP-00280988.

Nakagawa Tateishi zο Mizoguchi H, Ando Senoh A, Ikeda M, S, Hayashi Ozaki A; ᄌ Yokoi

(KYOW) KYOWA

HAKKO KOGYO

즛

2001-376931/40.)B; AAG90035.

Novel polynucleotides derived from Coryneform bacteria, for identifying mutation point of a gene, measuring expression of a gene, analyzing expression profile or pattern of a gene and identifying homologous gene

SEQ ID NO 289; 246pp + Sequence Listing; English.

The present invention provides a number of nucleotide and protein sequences from the Coryneform bacterium Corynebacterium glutamicum. These are useful for identifying the mutation point of a gene derived from a mutant of coryneform bacterium, measuring expression amount and analysing the expression profile or expression pattern of a gene derived from coryneform bacterium, and identifying a homologue of a gene derived from coryneform bacterium. Coryneform bacteria are useful for producing amino

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Matches 753
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               04-JUN-2003
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Best Local
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                                                              GCCCGCAGGCTGGTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCACTCCTACTG
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RESULT 7
AAF61693/c
ID AAF61693 standard; DNA; 397 Bi
XX
AC AAF61693;
XX
AC AAF61693;
XX
AC AAF61693;
XX
DE C. glutamicum lrp encoding DNJ
XX
Permentation; L-amino acid pro
XX
C. glutamicum lrp encoding DNJ
XX
Permentation; L-amino acid pro
XX
Corynebacterium glutamicum.
PN EP1090993-A1.
XX
PD 11-APR-2001.
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COFOCT-1999; 99DE-01047792.
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Best Local Simi
Matches 368;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This invention describes a novel isolated nucleic acid (I) from coryneform bacteria used for the fermentative production of selected L-amino acids, by fermenting the amino acid-producing coryneform in which at least the Irg gene has been weakened or amplified, then isolating amino acids that have accumulated in the medium or cells. (I) is used to transform coryneforms for production of L-amino acids, specifically lysine and isoleucine, which are used in medicine and particularly as animal feed supplement. It may also be used as probes and primers for isolating related sequences. Regulating expression of (I) improves production of amino acids, especially of L-lysine. This sequence encodes a fragment of the Corynebacterium glutamicum Irp protein which is used in the method described in the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 397 BP; 96 A; 100 C; 104 G; 97 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Example 3; Page 16; 22pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New lrp gene from coryneform bacteria, used to prepare transformants with increased synthesis of amino acids, particularly lysine and isoleucine.
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GCCTGGAGGTGTCGCCATCCAAGGCAGCCTGGAACCAGATGATAAAGGTTATCGGCGCT
                                                                                                                                                                                                               AATGGAATCTAGCTTCATATATTGCACAATAGCCTAGTTGAGGTGCGCAAACTGGCAACA
                                                                                            AATGGAATCTAGCTTCATATATTGCACAATAGCCTAGTTGAGGTGCGCAAACTGGCAACA 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ion; L-amino acid production; lrp gene; lysine; isoleucine;
animal feed supplement; ds.
                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99DE-01047792.
                                                                                                                                                                                                                                                                                                                                                           28.8%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA fragment SEQ ID
                                                                                                                                                                                                                                                                                                                                  ; Score 365.6; 1; Pred. No. 2.2e
0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                 2e-106;
                                                                                                                                                                                                                                                                                                                                                                                           DB 4;
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AATGGAATCTAGCTTCATATATTGCACAATAGCCTAGTTGAGGTGCGCAAACTGGCAACA

Query Match Best Local (Matches

Similarity

28.8%; Score 365.6; DB 4; 98.9%; Pred. No. 3.2e-106;

4

Indels Length

0

Gaps

0

83

Conservative

0;

Sequence 778 BP; 175 A; 208 C; 207 G; 188 T; 0 U; 0 Other;

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RESULT 8
AAP61695/c
ID AAP61695;
XX AAF61695;
XX AAF61695;
XX AAF61695;
XX Permentat
XX Corynebac
XX Corynebac
XX Corynebac
XX Corynebac
XX Permentat
XX Permentat
XX DF11-APR-20
XX O5-OCT-19
PR O5-OCT-19
PR O5-OCT-19
PR WPI; 2001
XX WPI; 2
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                                                        This invention describes a novel isolated nucleic acid (I) from coryneform bacteria used for the fermentative production of selected L-amino acids, by fermenting the amino acid-producing coryneform in which at least the lrp gene has been weakened or amplified, then isolating amino acids that have accumulated in the medium or cells. (I) is used to transform coryneforms for production of L-amino acids, specifically lysine and isoleucine, which are used in medicine and particularly as animal feed supplement. It may also be used as probes and primers for isolating related sequences. Regulating expression of (I) improves production of amino acids, especially of L-lysine. This sequence encodes a fragment of the Corynebacterium glutamicum lrp protein which is used in the method described in the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fermentation; L-amino acid production; lrp gene; lysine; isoleucine;
medicine; animal feed supplement; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example 3; Page 17; 22pp; German.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     05-OCT-1999;
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This invention describes a novel isolated polynucleotide (I) containing at least one sequence that (i) is 70% identical with a sequence that encodes at least one of 251 amino acid (aa) (3) or 108 aa (5) polypeptides; (ii) encodes a polypeptide at least 70% identical with (3) or (5); (iii) is the complement of (i) or (ii), or (iv) contains at least 15 consecutive bases from (i)-(iii). The invention also describes (a) protein derived from sequences of 753 bp (2) or 324 bp (4); (b) coryneform microorganisms, especially Corynebacterium, transformed with
                                                                                                                                                                                                                                                                                                                                                                                               L-amino acid production; brnF; brnE; branched-chain amino acid; coryneform bacterium; leucine; isoleucine; valine; medicine; animal nutrition; ds.
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                                                                                                             Claim 5; Page 16; 23pp; German.
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                                                                                                                                       fermentative
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                                                                                                                                                                                                                                    DEGUSSA AG.
FORSCHUNGSZENTRUM JUELICH
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                                                                                                                                                                                                             Eggeling
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                                                                                                                                      coryneform bacteria, useful for increasing on of branched-chain amino acids.
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RESULT 10
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             one or more (I), where these are replicative DNA; (c) production of branched-chain i-aa by fermentation of coryneform bacteria in which the brnE and/or brnF genes (or equivalent sequences) are amplified, especially overexpressed; and (d) method for isolating the brnE and/or brnF genes. (I) is used for transformation of coryneform bacteria being used for fermentative production of branched-chain amino acids, specifically leucine, isoleucine and valine, which are useful in medicine and animal nutrition. (I) can also be used as source of primers and probes for isolation of related sequences. Transformation with (I) increases yield of branched-chain amino acids. This sequence encodes the corynebacterium glutamicum ATCC 14752 brnE protein described in the
                                                                                                                                                                                                                                                                      Coryneform bacterium; amino organic acid synthesis; ds.
                                                                                                                                                                                                                                                                                                                      C glutamicum coding sequence fragment SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                      26-SEP-2001
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                                                                                               16-DEC-1999;
07-APR-2000;
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                                                                                                                                           18-DEC-2000; 2000EP-00127688
                                                                                03-AUG-2000;
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                                               (KYOW ) KYOWA HAKKO KOGYO
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; 2000JP-00159162.
; 2000JP-00280988.
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 Mizoguchi H, Ando S, Hayashi
Senoh A, Ikeda M, Ozaki A;
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Best Local
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P-PSDB;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Novel polynucleotides derived from Coryneform bacteria, for identifying mutation point of a gene, measuring expression of a gene, analyzing expression profile or pattern of a gene and identifying homologous gene.
                                                                                                                              Coryneform; nucleic acid array;
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13-JUN-2001; 2001DE-01028510.
                                19-DEC-2002
                                                                                               Corynebacterium
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DB; AAG90036.
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100.0%; Pre
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s; Pred. No. 4.4
0; Mismatches
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thes 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New nucleic acid array useful for Corynebacterium glutamicum during from Corynebacterium glutamicum.
                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 324 BP; 60 A; 79 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      glutamicum derived polynucleotides described in the disclosure of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 1; Page 647; 709pp; German
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RESULT 12
AAF61688/c
ID AAF616
XX C: glu
XX C: glu
XX Fermen
XM Fermen
XM medici
XX Fermen
XM Teyne
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Key
-35_signal
                                                                                                                           12-JUL-2001
                                                               medicine;
                                                                                                                                                                           AAF61688
                                      Corynebacterium
                                                              Fermentation; L-amino medicine; animal feed
                                                                                                   glutamicum
                                                                                                                                                                            standard;
                                                                                                                           (first entry)
                                                                                                   lrp encoding
                                      glutamicum
   Location/Qualifiers 62. .67
                                                                                                                                                                            DNA;
                                                             acid production;
supplement; ds.
                                                                                                                                                                            715
                                                                                                   DNA.
                                                                          lrp gene;
                                                                           lysine; isoleucine;
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RESULT 13
ACA01968
ID ACA01
XX
AC ACA01
AC ACA01
DT 04-JU
XX
DE C. g1
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Best Local S
Matches 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                This invention describes a novel isolated nucleic acid (I) from coryneform bacteria used for the fermentative production of selected L-amino acids, by fermenting the amino acid-producing coryneform in which at least the 1rp gene has been weakened or amplified, then isolating amino acids that have accumulated in the medium or cells (I) is used to transform coryneforms for production of L-amino acids, specifically 1ysine and isolaucine, which are used in medicine and particularly as animal feed supplement. It may also be used as probes and primers for isolating related sequences. Regulating expression of (I) improves production of amino acids, especially of L-lysine. This sequence encodes the Corynebacterium glutamicum 1rp protein which is used in the method described in the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       05-OCT-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 715 BP; 166 A; 173 C; 178 G; 198 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 4; Page 14-15; 22pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New lrp gene from coryneform bacteria, used to prepare transformants with increased synthesis of amino acids, particularly lysine and isoleucine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Moeckel B,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -10_signal
                                        04-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (DEGS )
                                                                   ACA01968
                                                                                           ACA01968 standard; DNA; 177
              glutamicum
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                                                                                                                                                                                                                                                                                                                      185
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                                                                                                                                                                                                                                                                                                                                                                          185;
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                                                                                                                                                                                                                                                                                                                                        1 GCGCGATCAATGGAATCTAGCTTCATATATTGCACAATAGCCTAGTTGAGGTGCGCAAAC
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                                                                                                                                                                                                                                                                                                                                                                                     Similarity
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                                                                                                                                                                                     TCGGC 185
                                                                                                                                                                                                                                        TCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTGGAACCAGATGATAAAGGTTA 180
                                                                                                                                                                                                                                                                 TGGCAACAAAACTACCCGGCAATTGTGTGATGATTGTAGTGTGCAAAAAAACGCAAGAGAT
                                                                                                                                                                                                                                                                                                                      GCGCGATCAATGGAATCTAGCTTCATATATTGCACAATAGCCTAGTTGAGGTGCGCAAAC
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                                        (first entry)
                derived ORF
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88. .93
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               SEQ ID
                                                                                           ВP
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Pred. No. 2.9e-48
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                1959
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s 0;
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RESULT 14
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Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This invention describes a novel nucleic acid array involving Corynebacterium glutamicum polynucleotides. The arrays are used to analyse C. glutamicum, particularly for monitoring a fermentation process to determine expression levels of C. glutamicum cellular mRNA. Such monitoring particularly differentiates between expression levels of different strains of C. glutamicum and allows the adjustment of different culture and fermentation conditions. ACA00010-ACA02188 represent C. glutamicum derived polynucleotides described in the disclosure of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New nucleic acid array useful for Corynebacterium glutamicum during from Corynebacterium glutamicum.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Coryneform; nucleic acid array;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2003-279970/28.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 177 BP; 54 A; 40 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 1; Page
                                                                       Corynebacterium
                                                                                              organic acid
                                                                                                           Coryneform bacterium; amino acid synthesis; vitamin; saccharide;
                                                                                                                                  C glutamicum coding sequence
                                                                                                                                                             26-SEP-2001
                                                                                                                                                                                                              AAH68373 standard;
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177; Conserv
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                                                                                                                                                                                                                                                                                                   AGGCAGCCCTGGAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTC
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                                                                                                                                                                                                                                                                                                                                                                              TTGCACAATAGCCTAGTTGAGGTGCGCAAACTGGCAACAAACTACCCGGCAATTGTGTG
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                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                               synthesis;
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                                                                                                                                                             (first entry)
                                                                       glutamicum.
                                                                                                                                                                                                              DNA;
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100.0%; Fi
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                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 177;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               47 G;
                                                                                                                                    fragment SEQ ID NO: 3408
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 36 T;
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                                                                                                                                                                                                                                                                                                                                                                                                                                           4.8e-46;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 7;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 177;
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18-DEC-2000; 2000EP-00127688

EP1108790-A2

20-JUN-2001

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Matches 318
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07-APR-2000;
03-AUG-2000;
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Tateishi
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318; Conserv
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                                                       GCCGAACGAAAAAGCAGATCCCTTCTCTGCTGCTCGCAGGTTTGAGCTTCACCATTGCTC
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Senoh A,
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2000JP-00159162.
2000JP-00280988.
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Ikeda M,
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Ozaki A;
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Db 113 GTTTCGCCTGGTGGACGCCGATTTTCTCCTTCGTGATCTATGCCGGTTCGATGGAAT
Qy 282 GCTACGAATGGTGGGCACTGTTTTTCCGGCCTGATTTTCGCGGCTCCACCGAAA
Qy 222 CIGCAGGITIGGGCAIGIACCCGAIIGGGTAITGCGITIGGGICICTIGGTIATICAAIACG
Query Match Best Local Similarity 51.5%; Pred. No. 9e- Matches 318; Conservative 0; Mismatches
SQ Sequence 711 BP; 123 A; 190 C; 198 G; 200 T;
CC This invention describes a novel nucleic acid array invo CC corynebacterium glutamicum polynucleotides. The arrays acc corynebacterium glutamicum polynucleotides. The arrays acc condition of the conditions of the conditions. ACA00010-ACA02188 recommendation derived polynucleotides described in the discondition of the condition of the conditi
PS Claim 1; Page 456; 709pp; German. XX
PT New nucleic acid array useful for monitoring PT Corynebacterium glutamicum during fermentati PT from Corynebacterium glutamicum. XX
DR WPI; 2003-279970/28.
PI Farwick M, Moeckel B, Pfefferle W, Bathe
PA (DEGS) DEGUSSA AG.
PR 13-JUN-2001; 2001DE-01028510.
PF 13-JUN-2001; 2001DE-01028510.
PD 19-DEC-2002. XX
PN DE10128510-A1.
OS Corynebacterium glutamicum.
KW Coryneform; nucleic acid array; fermentation;
DE C. glutamicum derived ORF SEQ ID 1285.
DT 03-JUN-2003 (first entry)
AC ACA01294;
RESULT 15 ACA01294 ID ACA01294 standard; DNA; 711 BP.
Db 653 TTCTCCGCGTCCGCTTC 669
Qy 819 CCATCCGGTACTTCTTC 835
Db 593 GTTTTGTGGCGCCCGAGCAGATGCTGGTTATCGCTTTGACCACGTACTTTTTGATCCTTC
Qy 759 TIGIGGIAATICCAGGICAGGCCCTATITGCGGCGCTGATCTTCTTGGGTCTGTTGA
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3: /cgn2_6/ptodata/2/ina/6A_COMB.seq:*
4: /cgn2_6/ptodata/2/ina/6B_COMB.seq:*
5: /cgn2_6/ptodata/2/ina/PCTUS_COMB.seq:*
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Sequence 3016, Appli
Sequence 14, Appl
Sequence 1266, Appl
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Sequence 18033, A
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APPLICANT: PESFERIE, WALTER
TITLE OF INVENTION: UNCLEOTIDE SEQUENCE CODING FOR THE EXPORT OF
TITLE OF INVENTION: BRANCHED CHAIN AMINO ACIDS, PROCESS FOR THE
TITLE OF INVENTION: ISOLATION THEREOF AND USE THEREOF
FILE REFERENCE: 21123/26549/MAS
CURRENT APPLICATION NUMBER: US/09/471,803A
CURRENT FILING DATE: 1999-12-23
PRIOR APPLICATION NUMBER: US 199 51 708.8
PRIOR APPLICATION HOMBER: DE 199 51 708.8
PRIOR FILING DATE: 1999-10-27
NUMBER OF SEQ ID NOS: 12
SOFTWARE: PATENTIN Ver. 2.1
SOFTWARE: PATENTIN VEY. 2.1
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US-09-471-803A-6
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TYPE: DNA

ORGANISM: Corynebacterium glutamicum
FEATURE:
NAME/KEY: gene
LOCATION: (101)...(853)
OTHER INFORMATION: brnF
NAME/KEY: gene
LOCATION: (853)...(1176)
OTHER INFORMATION: brnE
OTHER INFORMATION: brnE
OTHER INFORMATION: ATCC13032
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APPLICANT: KENNERKNECHT,
APPLICANT: SAHM, HERMANN
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                                                                   CGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGGTCAAAAACCCCATTGCCCGTTTCTA
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Pred. No. 0;
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APPLICANT: KENNERGYECHT, NICOLE
APPLICANT: SAHM, HERMANN
APPLICANT: SAHM, HERMANN
APPLICANT: BEGGELING, LOTHAR
APPLICANT: PEFFERLE, WALTER
TITLE OF INVENTION: NUCLEOTIDE SEQUENCE CODING FOR THE EXPORT OF
TITLE OF INVENTION: BRANCHED CHAIN AMINO ACIDS, PROCESS FOR THE
TITLE OF INVENTION: 1SOLATION THEREOF AND USE THEREOF
FILE REFERENCE: 21123/265496/MAS
CURRENT APPLICATION NUMBER: US/09/471,803A
CURRENT FILING DATE: 1999-12-23
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR FILING DATE: 1999-10-27
                                                                                                                                                                                                                         RESULT 3
US-09-471-803A-2
                                                                                                                                                                             Sequence 2, Application US/09471803A Patent No. 6613545
GENERAL INFORMATION:
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TYPE: DNA
ORGANISM: Corynebacterium glutamicum
FEATURE:
LOCATION: (1)..(753)
OTHER INFORMATION: brnf
OTHER INFORMATION: ATCC14752
US-09-471-803A-2
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US-09-471-803A-4
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Matches 753;
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CURRENT APPLICATION NUMBER: US/09/489,039A
CURRENT FILING DATE: 2000-01-27
PRIOR APPLICATION NUMBER: US 60/117,747
PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 14342
SEQ ID NO 3016
LENGTH: 756
TYPE: DNA
                                                                                                                                                                                                                                                                                Sequence 3016, Application US/09489039A
patent No. 6610836
GENERAL INFORMATION:
APPLICANT: Gary Breton et. al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING
TITLE OF INVENTION: PUBLICACID AND AMINO ACID SEQUENCES RELATING
TITLE OF INVENTION: PUBLICACID AND AMINO ACID SEQUENCES RELATING
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CURRENT APPLICATION NUMBER: US/09/471,803A
CURRENT FILING DATE: 1999-12-23
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR FILING DATE: 1999-10-27
NUMBER OF SEQ ID NOS: 12
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APPLICANT: EGGELING, LOTHAR
APPLICANT: PETPFERLE, WALTER
TITLE OF INVENTION: NUCLECTIDE SEQUENCE CODING FOR THE EXPORT OF
TITLE OF INVENTION: BRANCHED CHAIN AMINO ACIDS, PROCESS FOR THE
TITLE OF INVENTION: ISOLATION THEREOF AND USE THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: PatentIn Ver. 2.1
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OTHER INFORMATION: brnE
OTHER INFORMATION: ATCC14752
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; Pred. No. 8.9e-99;
0; Mismatches 0;
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; ORGANISM: Klebsiella pneumoniae US-09-489-039A-3016
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US-08-232-463-14
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Best Local Similarity
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GENERAL INFORMATION
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                                                                                                                                                                                                                                                                                                                                  COUNTRY: USA
ZIP: 22313-0299
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC CDOS/MS-DOS
SOFTWARE: PSTEM: PC-DOS/MS-DOS
SOFTWARE: PSTEM: PC-DOS/MS-DOS
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/232,463
                  TELEFAX: (703) 683-4109
TELEX: 899149
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 7218 base pair
                                                                                                                        APPLICATION NUMBER: US/07/93:
FILING DATE:
APPLICATION NUMBER: EP 91 114
FILING DATE: 26-AUG-1991
ATTORNEY/AGENT INFORMATION:
NAME: BENT, Stephen A.
REGISTRATION NUMBER: 29,768
REFERENCE/DOCKET NUMBER: 304'
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES: 52
CORRESPONDENCE ADDRESS:
ADDRESSEE: Foley & Lardner
STREET: 1800 Diagonal Road, Suite
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: SCHEIFLINGER,
                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                   FILING DATE:
CLASSIFICATION: 435
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CITY: Alexandria
TYPE: nucleic acid
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5670367
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DORNER,
                                                                                            (703)683-4109
                                                                                                             (703)836-9300
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Pred. No. 3.4e-09;
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STRANDEDNESS:

linear

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RESULT 7
US-09-107-532A-1266
JS-09-107-532A-1266
JS-09-107-532A-1266
JS-09-107-532A
REQUENCE 1266, Application US/09107532A
REPLICATE LYTH A DOUCETTE-Stamm
REPLICATE LYTH A DOUCETTE ACID
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          ATTORNEY/AGENT INFORMÁTION:
NAME: ATINIEllo, Pamela Deneke
REGISTRATION NUMBER: 40,489
REFERENCE/DOCKET NUMBER: GTC-012
TELECOMMUNICATION INFORMATION:
TELEPHONE: (781)893-5007
                                                                                           FILING DATE: 30-Jun-1998
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/085,598
FILING DATE: 14 May 1998
APPLICATION NUMBER: 60/051571
FILING DATE: July 2, 1997
                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
ADDRESSEE: GENOME THERAPEUTICS
STREET: 100 Beaver Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1410
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MEDIUM TYPE: CD/ROM ISO9660
                                                                                                                                                                                               CURRENT
                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES:
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                                                                                                                                                                                 APPLICATION NUMBER: US/09/107,532A
                                                                                                                                                                                                                         OPERATING SYSTEM: <Unknown>
                                                                                                                                                                                                                                         COMPUTER:
                                                                                                                                                                                                                                                                                                             STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                           CITY: Waltham
                                                                                                                                                                                                            SOFTWARE: ASC
                                                                                                                                                                                                                                                                                                COUNTRY: USA
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                                                                                                                                                                                                                                                                                     02354
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Pred. No. 2e-06;
                                                                                                                                                                                                                                                                                                                                                                                               and David Bush
AND AMINO ACID SEQUENCES RELATING
FAECIUM FOR DIAGNOSTICS AND THERAF
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FILE REFERENCE: 107196.136
CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
SEQ ID NO 11376
LENGTH: 1038
TYPE: DNA
ORGANISM: Pseudomonas aeruginosa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        . NAME/KEY: misc_feature;
; LOCATION: (B) LOCATION 1...768;
; SEQUENCE DESCRIPTION: SEQ ID NO: 1266;
US-09-107-532A-1266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-252-991A-11376
                                                                                                                                                                                                                           US-09-252-991A-11376
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 1176, Application US/09252991A
Patent No. 6551795
GENERAL INFORMATION:
APPLICANT: Marc J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 107196.136
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Best Local (
                                                                                                                                                                                        Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: nucleic acid
STRANDEDNESS: double
TOPOLOGY: circular
MOLECULE TYPE: DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
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                                                                                                                                                     . Similarity
77; Conserv
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  GTGCCGGGTTCTTTTCGATCATCTTCACCACCCTCCTGCTGCACCTCGCAGCACCTGCTCT
                                  CAGCGCCCTGGGCGCCATCGCGCTCACCATTGCTGGTGAACTTCCGCCACGTATTCT
                                                                         TGTCCGCCATCGTCTTCGCCGGCGCCCCCAGTTGGTGGCGATCGGCATGCTCAAGGGCG
                                                                                                              TTTCCGGCCTGATTTTCGCGGGCTCCACCGAAATGCTGGTCATCGCCCTCGTTGTGGGCG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 768 base pairs
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                                                                                                                                                     Conservative
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Pred. No. 0.0072;
0; Mismatches 107;
                                                                                                                                                   Score 39.2; DB Pred. No. 0.014; 0; Mismatches
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                                                                                                                                                                                        DB 4; Length 1038;
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US-09-252-991A-11418
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GENERAL INFORMATION: Rubenfield et al.
APPLICANT: MATC J. Rubenfield et al.
APPLICANT: MATC J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
THE REFERENCE: 107196.136
                                                                                                                                                                              ; ORGANISM: Homo sapiens
US-09-621-976-8976
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Best Local (
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LENGTH: 1086
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                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 8976, Application US/09621976
Patent No. 6639063
GENERAL INFORMATION:
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                                                                                                               Matches
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Best Local 9
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CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
PRIOR FILING DATE: 1998-02-18
PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
                                                                                                                                                                                                                                             SEQ ID NO 8976
                                                                                                                                                                                                                                                                                           FILE REFERENCE: GENSET.054PR2
CURRENT APPLICATION NUMBER: US/09/621,976
CURRENT FILING DATE: 2000-07-21
                                                                                                                                                                                                                                                                                                                                           APPLICANT: Jobert, S.
APPLICANT: Giordano, J.Y.
TITLE OF INVENTION: ESTS and Encoded Human
                                                                                                                                                                                                                                                             NUMBER OF SEQ ID NOS:
SOFTWARE: Patent.pm
                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Dumas Milne Edwards,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Pseudomonas aeruginosa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: DNA
                                                                                                                                                                                                              TYPE: DNA
                                                                                                                                                                                                                               LENGIH:
                                                                                                               / Match 3.1%;
Local Similarity 12.6%;
nes 30; Conservative 11
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Similarity 55.0%;
77; Conservative
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                                             SAMMRKKKMTCWKGRSSWGSRSTGYYAWMYKKSWCTSRKWMYYKKRRKKWRRKCTSTKRT
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               GAGTGGCGATCGCAGAGTTGATTCCTTTTGAAATTAAGGGCCTCGAGTTCGCCCTTTGCT
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                                                                                                                              Score 39; DB 4;
Pred. No. 0.0086;
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RESULT 12
US-09-252-991A-3205/c
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CURRENT FILING DATE: 2000-07-21
NUMBER OF SEQ ID NOS: 19335
SOFTWARE: Patent.pm
SEQ ID NO 18033
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 18033, Application US/09621976 Patent No. 6639063 GENERAL INFORMATION:
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Dumas Milne Edwards, APPLICANT: Jobert, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: DNA
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nes 49; Conserv
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                                                                                                                                                                                                                                                                                                                                                                            582 CCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAAA 641
                                                                                                                                                                                                                                                                                                                                                                                                                                                 522 CGGCCAGGCCCGCAGGCTGGTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCACT
                                                                                                                                    253 MMYKGGRMYWWWRGGMWKRMYWMYKKKSMWKGSCMWKRAWWARKTTYYTWAWYYTTYYKR
                                                                                                                                                                     762 TGGTAATTCCAGGTCAGGCCCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGTTGACCA
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                                                                     313 MCCYYMRKTTYCMMWYSRWWRGSMWTARGAWWMCYWWYY 352
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                                                                                                                                                                                                                                                                                                          TTAAGGGCCTCGAGTTCGCCCTTTGCTCTCTTTGTCACGCTGACTTTGGATTCCTGCC 701
                                                                                                                                                                                                                                                                                                                                               wwittikgkwarrrmsgggkttymmcskkkikscmagrwkgkyyysrwyyycykgacyym
                                                                                                                                                                                                                                                                                                                                                                                                                YSGNCYYCCMARXWRSYKGGRMYKSYRGSSSCYKSCMMCMMSKYCSGSYKKTTTTTTWAW
                                                                                                     TCCGGTACTTCTTCGGGAAAGGCTGCTAAATGACAACT
                                                                                                                                                                                                           YMMMMRRAAAKTYYYCMMSKIMCCMACCCMMCCMRRARSCCMRSCMRSYTYMMCYYYY
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Pred. No.
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Sequence 3205, Application US/09252991A Patent No. 6551795 GENERAL INFORMATION:
APPLICANT: Marc J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND FILE REFERENCE: 107196.136

J. Rubenfield et al. NN: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO NN: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS 107196.136

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; ORGANISM: Pseudomonas aeruginosa
US-09-252-991A-3205
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/09/252,991A CURRENT FILING DATE: 1999-02-18 PRIOR APPLICATION NUMBER: US 60/074,788 PRIOR FILING DATE: 1998-02-18 PRIOR APPLICATION NUMBER: US 60/094,190 PRIOR FILING DATE: 1998-07-27 NUMBER OF SEQ ID NOS: 33142 SEQ ID NO 2761
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Best Local Similarity
Matches 65; Conserv
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LENGTH: 1140
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                                                                                                                                                             Sequence 12, Application US/09020956 Patent No. 6261562
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Best Local S
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PRIOR FILING DATE: 1998-02-18
PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR ETILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Marc J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 107196.136
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CURRENT FILING DATE: 1999-02-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: DNA ORGANISM: Pseudomonas aeruginosa
                                                                            APPLICANT: Xu, Jiangchun APPLICANT: Dillin, Davin C. TITLE OF INVENTION: COMPOUN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ENGTH:
                                     NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
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                                                                                                                                            INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                          65;
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E: SEED and BERRY LLP 6300 Columbia Center,
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Pred. No. 0.097;
0; Mismatches 47; Indels
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  701 Fifth Avenue
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US-09-020-956-12
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Patent No. 6262245
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
NAME: Maki, David J.
REGISTRATION NUMBER: 31,392
REFERENCE/DOCKET NUMBER: 2101
TELECOMMUNICATION INFORMATION:
TELEPHONE: (206) 622-4900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
ATTORNEY/AGENT INFORMATION:
NAME: Maki, David J.
REGISTRATION NUMBER: 31,392
REFERENCE/DOCKET NUMBER: 2101
TELECOMMUNICATION INFORMATION:
TELEPHONE: (206) 622-4900
                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC.compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/020,956
FILING DATE: 09-FEB-1998
                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES: 224
CORRESPONDENCE ADDRESS:
ADDRESSEE: SEED and BERRY LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Xu, Jiar APPLICANT: Dillon, TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE:
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MEDIUM TYPE: Floppy disk
                                                                                                           APPLICATION NUMBER: FILING DATE: 25-FEI CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                         STREET: 6300 Columbia Center, CITY: Seattle
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                                                                                                                                                                                                                                                                                  COUNTRY: US
ZIP: 98104
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                350 TGGTGTACACCACAATGGCTGAGCACTTCCCTGACGT 314
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Maximum Match 100%
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Gapop 10.0 , Gapext 1.0
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|: /cgn2_6/ptodata/1/pubpna
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Copyright (c) 1993 - 2004 Compugen Ltd.
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n2_6/ptodata/1/pubpna/US06_NEW_PUB.seq:*
n2_6/ptodata/1/pubpna/US06_PUBCOMB.seq:*
n2_6/ptodata/1/pubpna/US07_NEW_PUB.seq:*
n2_6/ptodata/1/pubpna/PCTUS_PUBCOMB.seq:*
n2_6/ptodata/1/pubpna/US08_NEW_PUB.seq:*
n2_6/ptodata/1/pubpna/US08_PUBCOMB.seq:*
n2_6/ptodata/1/pubpna/US08_PUBCOMB.seq:*
n2_6/ptodata/1/pubpna/US09A_PUBCOMB.seq:*
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gn2_6/ptodata/1/pubpna/US10A_PUBCOMB.seq:*
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gn2_6/ptodata/1/pubpna/US10C_NEW_PUB.seq:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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Sequence 80, Appl	Sequence 1, Appli	Sequence 6067, Ap	Sequence 1, Appli	Sequence 3408, Ap	Sequence 1, Appli	Sequence 4, Appli	Sequence 290, App	Sequence 9, Appli	Sequence 7, Appli	Sequence 2, Appli	Sequence 289, App	۳	Sequence 6, Appli	Sequence 1, Appli	Description

Query Match

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Score 1271;

DB 15;

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Sequence 30075, A	Sequence 1, Appli	Sequence 5719, Ap	Sequence 326, App	Sequence 326, App		Sequence 48, Appl	Sequence 48, Appl	Sequence 211, App	Sequence 211, App		Sequence 10, Appl	Sequence 10, Appl	Sequence 10, Appl			Sequence 10, Appl		Sequence 10, Appl			Sequence 10, Appl	Sequence 10, Appl					Sequence 346, App		- Adding to a constant

ALIGNMENTS

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US-10-608-504-1
US-10-608-504-1
US-10-608-504-1
Sequence 1, Application US/10608504
Publication No. US20040014123A1
GENERAL INFORMATION:
APPLICANT: KENNERGETT, NICOLE
APPLICANT: EGGELING, LOTHAR
APPLICANT: BEFERELE, WALTER
TITLE OF INVENTION: NUCLEOTIDE SEQUENCE CODING FOR THE EXPORT OF
TITLE OF INVENTION: NUCLEOTIDE SEQUENCE CODING FOR THE
TITLE OF INVENTION: HEALAND ACIDS, PROCESS FOR THE
TITLE OF INVENTION: UNCLEOTIDE SEQUENCE CODING FOR THE
TITLE OF INVENTION: HEALAND ACIDS, PROCESS FOR THE
TITLE OF INVENTION: NUCLEOTIDE SEQUENCE CODING FOR THE
TITLE OF INVENTION: HEALAND CHAIN AMINO ACIDS, PROCESS FOR THE
TITLE OF INVENTION: HEALAND CHAIN AMINO ACIDS, PROCESS FOR THE
TITLE OF INVENTION: MUMBER: US/10/608,504
CURRENT APPLICATION NUMBER: US/10/608,504
CURRENT APPLICATION NUMBER: US 09/471,803
PRIOR APPLICATION NUMBER: US 09/471,803
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR FILING DATE: 1999-10-27
NUMBER OF SEQ ID NOS: 12
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 1
LENGTH: 1271
TYPE: DNA
ORGANISM: Corynebacterium glutamicum
FEATURE:
NAME/KEY: Gene
LOCATION: (853)...(1176)
COTHER INFORMATION: brnE
FEATURE:
NAME/KEY: gene
LOCATION: (853)...(1176)
COTHER INFORMATION: brnE
FEATURE:
NAME/KEY: Gene
LOCATION: (853)...(1176)
COTHER INFORMATION: ATCC14752
US-10-608-504-1
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GCGGGTCAATCGAATCTCATTTCCATTCCACCACTACTTCAAAAACCCCATTCCCCA 420 TCGCCAACCAAAACTACCCGGCCATTCTTCGCGCTCACTTCAATACCCCACATTCCCCCCAACCAA
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CURRENT APPLICATION NUMBER: US/10/608,504
CURRENT FILING DATE: 2003-06-30
PRIOR APPLICATION NUMBER: US 09/471,803
PRIOR FILING DATE: 1999-12-3
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR FILING DATE: 1999-10-27
NUMBER OF SEQ ID NOS: 12
SOFTMARE: PATENTIN Ver. 2.1
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Publication No. US20040014123A1

GENERAL INFORMATION:
APPLICANT: KENNERKNECHT, NICOLE
APPLICANT: SAHM, HERMANN
APPLICANT: EGGELING, LOTHAR
APPLICANT: PFEFFERLE, WALTER
TITLE OF INVENTION: NUCLECTIDE SEQUENCE CODING FOR THE EXPORT OF INVENTION: BRANCHED CHAIN AMINO ACIDS, PROCESS FOR TITLE OF INVENTION: ISOLATION THEREOF AND USE THEREOF
FILE REFERENCE: 760180525

FILE REFERENCE: 760180525
                                                                                                                                                                                                                                                                                                               Query Match 100.0%; Score 1271; I Best Local Similarity 100.0%; Pred. No. 0; Matches 1271; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQ ID NO 6
LENGTH: 1271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: gene
LOCATION: (853)..(1176)
OTHER INFORMATION: brnE
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LOCATION: (101)..(853)
OTHER INFORMATION: brnF
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181
                                                                                        121 TCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTGGAACCAGATGATAAAGGTTA
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TCGGCGCTACGAAATCGCGCAAGGTCTAAAAACCTCCCTTGCTGCAGGTTTGGGCATGTA
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                                               TCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTGGAACCAGATGATAAAGGTTA
                                                                                                                                     TGGCAACAAAACTACCCGGCAATTGTGTGATGATTGTAGTGTGCAAAAAACGCAAGAGAT
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                                                                                                                                                                                                                                                                                                                                                               Length 1271;
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1081 ĠĊĠĀTTĀĊĀĠŢĠĠĠĊĀŢĊŦŢĊŢŢĠĠĊĠĠŢĊĠĀĊĊŢŢĠŢŢĠĀĊĠŢŢĠĠĊĠĊŢ 1140 1141 ĠĠCACCATCGTTTTTGTŢĠGACŢĠŢĠAĀŢĊŢŢŢŢĊŢĀĀĀĀCŢĠĀŢĀĀĀĀĀĀĀĀĀĀĀĀĀĀĀĀĀĀĀĀĀĀ	961 CAATTTGTGGGCAAAATGGCGATGTGGATGCCAGCAGGAATCCTTGCCATTTTGACCGCA 1020 961 CAATTTGTGGGCAAAATGGCGATGTGGATGCCAGCAGGAATCCTTGCCATTTTGACCGCA 1020 961 CAATTTGTGGCAAAATGGCGATAGATGTGAAGACTCTAACCTTTGGTCTCATTGCCGTT 1080 1021 TCAACGTTTCGCAGCAATGCGATAGATCTGAAGACTCTAACCTTTGGTCTCATTGCCGTT 1080 1021 TCAACGTTTCGCAGCAATGCGATAGATCTGAAGACTCTAACCTTTGGTCTCATTGCCGTT 1080 1081 GCGATTACAGTGGTGGCGCATCTTCTTGGCGGTCTAACCTTTGGTCTTGACCGTT 1140 1081 GCGATTACAGTGGCGCATCTTCTTGGCGGTCGACGCACCTTTGTGACGCTTTGGCCGT 1140	781 CCTATTTGCGCGCCTGCTGATCTTCTTGGGTCTGTTGACCATCCGGTACTTCTTCTTGGG 840 781 CCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGTTGACCATCCGGTACTTCTTCTTGGG 840 781 AAAGGCTGCTAAATGACAACTGATTTCTCCTTGATCATCTCTTGTGTGCAAGTATGTGCA 900 841 AAAGGCTGCTAAATGACAACTGATTTCTCCTGTATTCTCCTTGTTGTCGCAGTATGTGCA 900 841 AAAGGCTGCTAAATGACAACTGATTTCTCCTGTATTCTCCTTGTTGTCGCAGTATGTGCA 900 901 GTCATTACTTTTGCGCTCCGGGCGGTTCCGTTCTTAATCCTTAAGCCCCTACGTGAATCA 960 901 GTCATTACTTTTGCGCTCCGGGCGGTTCCGTTCTTAATCCTTAAGCCCCTACGTGAATCA 960 901 GTCATTACTTTTGCGGTCCGGGCGGTTCCGTTCTTAATCCTTAAGCCCCTTACGTGAATCA 960	CCTTTGCTCTCTTTGTCACGCTGACTTTGGATTCCTGCCGAACGAA		361 TGTGGGCGCAGCGCCCTGGGCGCCATCGCGGTCACCACATTGCTGGTGAACTTCCGCCA 420	241 CCCGATTGGTATTGCGTTTGGTCTATTCAATACGGCTACGAATGGTGGGCAGC 300	
277029 CCCACTGTTTTCCGCGCCTGATTTCCGCGGCTCACCAAAATGCTGGTCATCGCCCTGTT 361 TGTGGGGCCAGCGCCCTGGGGCCCATCGCGCTCACCACATTGCTGGTGAACTTCCGCCA	Db 276849 TCATTCAAGCCTGGAGGTGTCGCATCCAAGGCAGCCCTGGAAGCAGATGATAAAGGTTA 276908 Qy 181 TCGGCGCTACGAAATCGCGCAAAGGTCTAAAAACCTCCCTTGCTGCAGGTTTGGGCATGTA 240	OY 1 GCGCGATCAATGGAATCTAGCTTCATATATTGCACAÄTÄGCCTAGTTGAGGTGCGCAAAC 60	3309400 NA M: Corynebacterium glutamicum 26-1 100.0%; Score 1 Similarity 100.0%; Pred. N 271; Conservative 0; Misma	APPLICATION APPLICATION APPLICATION FILING DATE: APPLICATION APPLI	APPLICANT: HAVO, SELVO APPLICANT: HAVASHI, MIKIRO APPLICANT: COCHIAI, KEIKO APPLICANT: TATEISHI, NAOKO APPLICANT: SENOH, ARHIRO APPLICANT: SENOH, AKHIRO APPLICANT: IKEDA, MASATO APPLICANT: OZAKI, AKIO TITLE OF INVENTION: NOVEL POLYNUCLEOTIDES FILE REFERENCE: 249-125	X 21 X 21 X 12 Y 12 Y 12 Y 12 Y 12 Y 12	Db 1261 CAGACAGCGCT 1271

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Sequence 289, Application US/09738626
Publication No. US20020197605A1
GENERAL INFORMATION:
APPLICANT: NAKAGAWA, SATOSHI
APPLICANT: NAKAGAWA, HIROSHI
APPLICANT: MIZOGUCHI, HIROSHI
APPLICANT: ANDO, SEIKO
APPLICANT: OCHIAI, KEIKO
APPLICANT: OCHIAI, KEIKO
APPLICANT: TATBISHI, NACKO
APPLICANT: TATBISHI, NACKO
APPLICANT: SENCH, AKIO
APPLICANT: SENCH, AKIO
APPLICANT: OCAKI, AKIO
APPLICANT: OZAKI, AKIO
APPLICANT: OZAKI, AKIO
TITLE OF INVENTION: NOVEL POLYNUCLEOTI
                                                                                                                                                                                                                                                                                    RESULT 4
US-09-738-626-289
ANT: HAYASHI, MIKIRO
ANT: OCHIAI, KEIKO
CHIAI, KEIKO
ANT: YOKOI, HARUHIKO
ANT: TATEISHI, HAOKO
ANT: ISENOH, AKIHIRO
ANT: IKEDA, MASATO
ANT: OZAKI, AKIO
DF INVENTION: NOVEL POLYNUCLEOTIDES
EFERENCE: 249-125
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CCURRENT FILING DATE: 2000-12-18
PRIOR APPLICATION NUMBER: UP 99/377484
PRIOR FILING DATE: 1999-12-16
PRIOR APPLICATION NUMBER: UP 00/159162
PRIOR FILING DATE: 2000-04-07
PRIOR APPLICATION NUMBER: UP 00/280988
PRIOR FILING DATE: 2000-08-03
NUMBER: OF SEQ ID NOS: 7059
SOFTWARE: PatentIN ver. 3.0
SEQ ID NO 289
LENGTH: 753
TYPE: DNA
ORGANISM: Corynebacterium glutamicum
US-09-738-626-289
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100.0%; Pred. No. 6.5e-245;
vative 0; Mismatches 0;
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Sequence 2, Application US/10608504

Publication No. US20040014123A1

GENERAL INFORMATION:
APPLICANT: KENNERKNECHT, NICOLE
APPLICANT: SAHM, HERMANN
APPLICANT: SAHM, HERMANN
APPLICANT: SAHM, HERMANN
APPLICANT: SHAM, HERMANN
APPLICANT: PEFFERLE, WALTER
ITILE OF INVENTION: NUCLEOTIDE SEQUENCE CODING FOR THE EXPORT OF
INTELS OF INVENTION: BRANCHED CHAIN AMINO ACIDS, PROCESS FOR THE
ITILE OF INVENTION: ISOLATION THEREOF AND USE THEREOF
ITILE OF INVENTION INVEST: US/10/608,504

CURRENT APPLICATION NUMBER: US/9/471,803

PRIOR APPLICATION NUMBER: US 09/471,803

PRIOR APPLICATION NUMBER: US 199-12-23

PRIOR APPLICATION NUMBER: US 199-12-23

PRIOR APPLICATION NUMBER: US 199-10-27

NUMBER OF SEQ ID NOS: 12

SOUTWARE: PatentIn Ver. 2.1

SEQ ID NO 2

LENGTH: 753

TYPE: DNA

ORGANISM: Corynebacterium glutamicum

PEATURE:
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LOCATION: (1)..(753)
OTHER INFORMATION: brnF
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                                TCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAA
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                TCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAA
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, NAME/KEY: misc feature
, LOCATION: (1)...(397)
, OTHER INFORMATION: 1rp part
US-10-134-640-7
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Best Local Similarity
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TYPE: DNA
ORGANISM: Corynebacterium
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CAGCGCCCCTGG
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RESULT 6
US-10-134-640-7/c
Sequence 7, Application US/10134640
Publication No. US20030017555A1
GENERAL INFORMATION:
APPLICANT: Bathe, Brigitte
APPLICANT: Walinowski, Jorn
APPLICANT: Publer, Alfred
APPLICANT: Publer, Walter
TITLE OF INVENTION: NUCLectide Sequences Coding for FILE REFERENCE: 990109 BT
CURRENT APPLICATION NUMBER: US/10/134,640
CURRENT APPLICATION NUMBER: US/10/134,640
VUMBER OF SEQ ID NOS: 9
SOFTWARE: PatentIn version 3.1
SEQ ID NO 7
ILENGTH. 307
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Sequence 9, Application US/10134640
Publication No. US20030017555A1
GENERAL INFORMATION:
APPLICANT: Bathe, Brigitte
APPLICANT: Kalinowski, Jorn
APPLICANT: Publer, Alfred
APPLICANT: Mockel, Bettina
APPLICANT: Pfefferle, Walter
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US-10-134-640-9/c
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Matches 368; Conservative
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Best Local
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CURRENT FILING DATE: 2002-04-30
NUMBER OF SEQ ID NOS: 9
SOFTWARE: Patentin version 3.1
SEQ ID NO 9
LENGTH: 778
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APPLICANT: Publer, Alfred
APPLICANT: Mockel, Bettina
APPLICANT: Mockel, Bettina
APPLICANT: Pfefferle, Walter
TITLE OF INVENTION: Nuclectide Sequences Coding for the lrp Gene
FILE REFERENCE: 990109 BT
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OTHER INFORMATION: downstream region of the lrp gene
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NAME/KEY: misc feature

COATION: (377)..(397)
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FEATURE:
NAME/KEY: misc_feature
LOCATION: (1)...(349)
OTHER INFORMATION: upsream region of the lrp
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LOCATION: (398)...(433)
OTHER INFORMATION: 3'-region
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OTHER INFORMATION: 21 bp
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LOCATION: (350)..(376)
OTHER INFORMATION: 5'-region of the lrp-Gens
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RESULT 9 US-10-608-504-4

Sequence 4, Application US/10608504
Publication No. US20040014123A1
GENERAL INFORMATION:
APPLICANT: KENNERKNECHT, NICOLE

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APPLICANT: ANDO, SELECTION OF THE PRICE OF T
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US-09-738-626-290
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; ORGANISM: Corynebacterium glutamicum
US-09-738-626-290
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Best Local Similarity
Matches 324; Conserv
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APPLICANT: MIZOGUCHI, HIROSI
APPLICANT: ANDO, SEIKO
APPLICANT: HAYASHI, MIKIRO
APPLICANT: OCHIAI, KEIKO
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TTTGTTGGACTGGTGAATCTTTTC 324
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5. US20020197605A1
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Length 715;

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RESULT 10
US-10-134-640-1/c
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Best Local Similarity 100.
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SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 4
                                                                                                                                                                                                                                                                                     Sequence 1, Application US/10134640 Publication No. US20030017555A1 GENERAL INFORMATION:
FILE REFERENCE: 990109 BT
CURRENT APPLICATION NUMBER: US/10/134,640
CURRENT FILING DATE: 2002-04-30
NUMBER OF SEQ ID NOS: 9
SOFTWARE: Patentin version 3.1
SEQ ID NO 1
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APPLICANT: EFFFEREL, WALTER
TITLE OF INVENTION: NUCLEOTIDE SEQUENCE CODING FOR THE EXPORT OF
TITLE OF INVENTION: BRANCHED CHAIN AMINO ACIDS, PROCESS FOR THE
TITLE OF INVENTION: ISOLATION THEREOF AND USE THEREOF
FILE REFERENCE: 7601/80525
CURRENT APPLICATION NUMBER: US/10/608,504
CURRENT FILING DATE: 2003-06-30
PRIOR APPLICATION NUMBER: US 99/471,803
PRIOR PILING DATE: 1999-112-23
PRIOR PILING DATE: 1999-112-23
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR PILING DATE: 1999-10-27
PRIOR FILING DATE: 1999-10-27
PRIOR FILING DATE: 1999-10-27
                                                                                                                                 APPLICANT: Bathe, Brigitte
APPLICANT: Kalinowski, Jorn
APPLICANT: Puhler, Alfred
APPLICANT: Mockel, Bettina
APPLICANT: Pfefferle, Walter
TITLE OF INVENTION: Nucleotide Sequences Coding for the lrp Gene
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LOCATION: (1)..(324)
OTHER INFORMATION: brnE
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100.0%; Pr/
0;
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; NAME/KSY: -35 signal
; LOCATION: (62)..(67)
; OTHER INFORMATION:
US-10-134-640-1
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                                                                         ; ORGANISM: Corynebacterium glutamicum US-09-738-626-3408
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APPLICANT: OCHTAL, KEIKO
APPLICANT: OCHTAL, KEIKO
APPLICANT: OCHTAL, KEIKO
APPLICANT: TATELSHI, NAOKO
APPLICANT: SENOH, AKTHIRO
APPLICANT: OZAKI, AKTO
TITLB OF INVENTION: NOVEL POLYNUCLEOTIDES
FILE REFERENCE: 249-125
CURRENT APPLICATION NUMBER: US/09/738,626
CURRENT FILING DATE: 2000-12-18
PRIOR APPLICATION NUMBER: JP 99/377484
PRIOR APPLICATION NUMBER: JP 99/377484
PRIOR APPLICATION NUMBER: JP 00/159162
PRIOR APPLICATION NUMBER: JP 00/280988
PRIOR FILING DATE: 2000-08-03
NUMBER OF SEQ ID NOS: 7059
PRIOR FILING DATE: 2000-08-03
NUMBER OF SEQ ID NOS: 7059
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US-09-738-626-3408
                                                                                                                                           SOFTWARE: PatentIn ver.
SEQ ID NO 3408
LENGTH: 711
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     Query Match
Best Local Similarity
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Best Local Similarity
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                                                                                                                          TYPE: DNA
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OTHER INFORMATION: 1rp-Gen
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nilarity 100.0%;
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     10.0%;
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; Pred. No. 1.5e-51;
0; Mismatches 0;
     Score 127.4; DB 9; Pred. No. 6.1e-32;
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Sequence 1, Application US/09738626
Publication No. US20020197605A1
GENERAL INFORMATION:
APPLICANT: NAKAGAWA, SATOSHI
APPLICANT: MIZOGUCHI, HIROSHI
APPLICANT: MIZOGUCHI, HIROSHI
APPLICANT: HAYASHI, MIKIRO
APPLICANT: HAYASHI, MIKIRO
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             APPLICANT: OZAKI, AKIO
TITLE OF INVENTION: NOVEL POLYNUCLEOTIDES
FILE REFERENCE: 249-125
CURRENT APPLICATION NUMBER: US/09/738,626
CURRENT FILING DATE: 2000-12-18
PRIOR APPLICATION NUMBER: JP 99/377484
PRIOR FILING DATE: 1999-12-16
PRIOR APPLICATION NUMBER: JP 00/159162
PRIOR APPLICATION NUMBER: JP 00/159162
PRIOR APPLICATION NUMBER: JP 00/280988
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TATEISHI, NAOKO
SENOH, AKIHIRO
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                                                                                                                                                                                            IKEDA, MASATO
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Sequence 6067, Application US/10156761

Publication No. US20030119018A1

GENERAL INFORMATION:
APPLICANT: OWURA, SATOSHI
APPLICANT: IKEDA, HARUO
APPLICANT: HORIKAWA, JUN
APPLICANT: SHIBA, TADAYOSHI
APPLICANT: SHIBA, TADAYOSHI
APPLICANT: SAKAKI, YOSHIYUKI
APPLICANT: HATTORI, WASAHIRA
TITLE OF INVENTION: NOVEL POLYNUCLEOTIDES
FILE REFERENCE: 249-262
CURRENT APPLICATION NUMBER: US/10/156,761
CURRENT FILING DATE: 2002-05-29
PRIOR APPLICATION NUMBER: JP 2001-204089

RESULT 13 US-10-156-761-6067

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; SOFTWARE: PatentIn ver. 3.0
; SEQ ID NO 1
; LENGTH: 3309400
; TYPE: DNA
; ORGANISM: Corynebacterium g
US-09-738-626-1
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Pred. No. 1.4e-29;
0; Mismatches 296;
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; TYPE: DNA; ORGANISM: Streptomyces a; FEATURE: ; NAME/KEY: CDS; LOCATION: (1)..(594) US-10-156-761-6067
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US-10-156-761-1/c
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                                                                                                                                      ; FEATURE:
; NAME/KEY: misc feature
; LOCATION: (4187715)
; OTHER INFORMATION: a, t
US-10-156-761-1
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PRIOR APPLICATION NUMBER: JP 2001-272697
PRIOR FILING DATE: 2001-08-02
NUMBER OF SEQ ID NOS: 15109
SEQ ID NO 6067
LENGTH: 594
                                                                    Query Match
Best Local S
Matches 103
                                                                                                                                                                                                                          SEQ ID NO 1
LENGTH: 9025608
TYPE: DNA
ORGANISM: Streptomyces avermitilis
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Publication No. US20030119018A1
GENERAL INFORMATION:
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PRIOR FILING DATE: 2001-05-30
PRIOR APPLICATION NUMBER: JP 2001-272697
PRIOR FILING DATE: 2001-08-02
NUMBER OF SEQ ID NOS: 15109
                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: SHIBA, TADAYOSHI
APPLICANT: SAKAKI, YOSHIYUKI
APPLICANT: HATTORI, MASAHIRA
TITLE OF INVENTION: NOVEL POLYNUCLEOTIDES
FILE REPERENCE: 249-262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: OMURA, SATOSHI
APPLICANT: IKEDA, HARUO
APPLICANT: ISHIKAWA, JUN
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CURRENT FILING DATE: 2002-05-29
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 7327430 TCACCGGCTGCGCCATCGGCGAGGTGCTCGGCATGGTCGGCACCGCGCTCGGCTGGG
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SEQ ID NO 80
LENGTH: 351
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APPLICANT: Baker, Kevin P.
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Best Local (
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CURRENT APPLICATION NUMBER: US/10/184,644
CURRENT FILING DATE: 2002-06-28
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TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE
TITLE OF INVENTION: ACIDS ENCODING THE SAME
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                                                                     TT.YAC.ABBMC.B..SH.ASGNWYYNY..R.G...T..TCYYBSHKB..NYMGK.B.Y.
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                                 AACCCCATTGCCCGTTTCTATTCGGTTTTCGCGCT
..CM.M.GA...S.SCBSS.MT.R.WNSTTTS.BT
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Goddard, Audrey
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Search completed: April 17, 2004, 21:00:17 Job time : 647.884 secs

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US-10-608-504-1_COPY_101_1176 1076

OM nucleic

nucleic search, using sw model

Copyright

GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd.

April 19, 2004, 10:57:18;

Search time 4560.51 Seconds (without alignments)
10226.291 Million cell updates/sec

Pred. No. 18 the number of results predicted by chance to have

> score greater than or equal to the score of the result being and is derived by analysis of the total score distribution. printed,

Result No. O O 00000 0000 324 273.6 273.6 273.6 149.6 132.8 127.4 127.4 127.4 444 Query Match 40000700400 9888 1 7218 3 11025 3 125020 3 125020 3 10732 5 10732 6 301838 2000 3619 10733 2105 340000 349980 349926 756 309400 325651 715 715 Length B AX137085 AP00524 BX248361 AX123492 BD165609 AX127153 AP005283 AP005283 AP005283 AP005283 AP005283 AP005283 AP005283 AP013956 BX571660 BX571600 BX57160 AP005274 AX120085 AR391954 AR391954 AR391957 AX137710 BD014992 BD162490 AR391955 AX120377 AX120377 AX120377 AX120377 AX137083 BD162491 AX137083 IJ BD014991 Nucleotid BD014994 Nucleotid AF454053 Corynebac AR1005274 Corynebac AR301085 Sequence AR319154 Sequence AR319171 Sequence BD014992 Nucleotid BD162490 Novel pol AR391955 Sequence AR120374 Sequence AR137712 Sequence BD014993 Nucleotid BD162491 Novel pol AR391703 Sequence BD014993 Nucleotid BD162491 Novel pol AR137712 Sequence BD0162491 Novel pol BR137083 Sequence AR137083 Sequence AR137085 Sequence AR137085 Sequence AR137087 Sequence BD165609 Novel pol AR137077 Sequence BD013995 Novel nuc BR248361 Corynebac AR137077 Sequence BD013995 Novel nuc BR2571660 Methanosa AR386287 Sequence BD01395 Methanosa AR386287 Sequence 14 AR613585 Methanosa E32986 Gene encodi AE017209 Geobacter AX655393 Sequence AJ410307 Erwinia c AR391953 Sequence AR391956 Sequence AX137709 Sequence AX137714 Sequence AE013695 Yersinia AJ414156 Yersinia AL646084 Ralstonia Description AF429315 Homo sapi AE016783 Pseudomon AE008888

ALIGNMENTS

RESULT 1	
AR391953	
Locus	AR391953 1271 bp DNA linear PAT 18-DEC-2003
DEFINITION	Sequence 1 from patent US 6613545.
ACCESSION	AR391953
VERSION	AR391953.1 GI:40115724
KEYWORDS	
SOURCE	Unknown.
ORGANISM	Unknown.
	Unclassified.
REFERENCE	1 (bases 1 to 1271)
AUTHORS	Kennerknecht, N., Sahm, H., Eggeling, L. and Pfefferle, W.
TITLE	Nucleotide sequences coding for the export of branched chain amino
	acids, process for the isolation thereof and use thereof
JOURNAL	Patent: US 6613545-A 1 02-SEP-2003;

PAT

18-DEC-2003

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Similarity 100.0%;
76; Conservative 0
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 TCCTTGCCATTTTGACCGCATCAACGTTTCGCAGCAATGCGATAGATCTGAAGACTCTAA
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Pred. No. 8.3e-275;
; Mismatches 0;
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Best Local Similarity 100.0%;
Matches 1076; Conservative 0
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Sequence
AR391956
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1 (bases 1 to 1271)

1 (bases 1 to 1271)

Kennerknecht,N., Sahm,H., Eggeling,L. and Pfefferle,W.

Nucleotide sequences coding for the export of branched chain
acids, process for the isolation thereof and use thereof

Patent: US 6613545-A 6 02-8EP-2003;

Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Unknown.
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                                                                                                                                                                AACCCCATTGCCCGTTTCTATTCGGTTTTCGCGCTTATCGACGAAGCCTACGCAGTCACT
                                                                                                                                                                                                                       TIGCIGGIGAACITCCGCCACGTAIICTAIGCGIITTTCAIICCCGCIGCAIGIGGICAAA
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/mol_type="genomic DNA"
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Mismatches 0;
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/trans1_table=11 /trans1_table=11 /protein_id="CAC39923.1" /db_xref="GI:14273887" /db_xref="GI:14273887" /db_xref="REMTRRMBL:CAC39923" /trans1ation="MOXTOREHSSLEVSPSKAALEPDDKGYRRYEIAOGLKTSLAAGL /trans1ation="MOXTOREHSSLEVSPSKAALEPDDKGYRRYEIAOGLKTSLAAGL /trans1ation="MOXTOREHSSLEVSPSKAALEPDDKGYRRYEIAOGLKTSLAAGL /WYPIGIAFGLUVIQYGYEWHAAPLFGSTENGUSATWAARAGWSAMRLISMOIAFH SYMVFGGLTGVAIABLIFFELKGLEFALCSLFVTLTLDSCRTKKQIFSLLLAGLSFTI ALVVIFGGALFAALLIFLGLLTIRYFFLGKAAK" 8531179 8531179 /note="unnamed protein product; brnE"			AX137709 1271 bp DNA linear PAT 30-MAY-2001 Sequence 1 from Patent EP1096010. AX137709 AX137709.1 GI:14273886 Corynebacterium glutamicum Corynebacterium glutamicum Corynebacterium glutamicum Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;	CCTTGTTGAGCGTTGGCGCTGGCACCATCGTTTTTGTTGGACTGGTGAATCTTTTC 1076	901 TCCTTGCCATTTTGACCGCATCAACGTTTCGCAGCAATGCGATAGATCTGAAGACTCTAA 960	781 TTGTTGTCGCAGTATGTGCAGTCATTACTTTTGCGCTCCGGGCGGTTCCGTTCTTAATCC 840	61 GTGGTAATTCCAGGTCAGGCCCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGTTGACC 21 ATCCGGTACTTCTTCTTGGGAAAGGCTGCTAAATGACAACTGATTTCTCCCTGTATTCTCC	641 ATTAAGGGCCTCGAGTTCGCCCTTTGCTCTCTCTTTGTCACGCTGACTTTGGATTCCTGC 700 601 CGAACGAAAAAGCAGATCCCTTCTCTCTGCTGCTCGCAGGTTTGAGCTTCACCATTGCTCTT 660
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1 GTGCAAAAACGCAAGAGTTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG 60	Query Match 100.0%; Score 1076; DB 6; Length 1271; Best Local Similarity 100.0%; Pred. No. 8.3e-275; Matches 1076; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	/db_xref="REMTREMBL:CAC39928" /tranlation="WITDESCILLVANCANITEALRAVEFLILKFLRESGFVGKWAM /tranlation="WITDESCILLVANCANITVVAHILGGRRTLLSVGAGTIVFV WMPAGILAILTASTFRSNAIDLKTLTFGLIAVAITVVAHILGGRRTLLSVGAGTIVFV GLVNLF"	/Godon start=1 /trans]_table=11 /protein_id="CAC39928.1" /db_xref="GI:14273895"	STWVFGG ALVVIPG 8531 /note="	/ OD_XTED="KMTIKEMED: CACS 99 & /" / translation="MOKTGEHISSLEWSEKAALEPDDKGYRRYETAQGLKTSLAAGL / translation="MOKTGEHISSLEWSEKAALEPDDKGYRRYETAQGLKTSLAAGL GMYPIGIAFGLLVIQYGYEWWAAPLESGLIFAGSTEMLVIALVVGAAPLGAIALTTLL VNFRHVEYAFSEPLHVVKNPIARFYSVFALIDBAYAVTAARPAGWSAWRLISMQIAFH VNFRHVEYAFSEPLHVVKNPIARFYSVFALIDBAYAVTAARPAGWSAWRLISMQIAFH	/cogon_state=1 /transl_table=11 /protein_id="CAC39927.1" /db_xref="G1:14273894" /db_xref="G1:14273894"		rce	proteins, method for isolating them and their use L Patent: EP 1096010-A 6 02-MAY-2001; Degussa AG (DE) ; FORSCHUNGSZENTRUM JUELICH GMBH (DE) Location/Oualifiers	Corynebacterineae; Corynebacteriaceae; Corynebacterium. 1 Kennerknecht, N., Eggeling, L., Sahm, H. and Pfefferle, W. Nucleotide sequences coding for branched-chain amino aci	AAA13//14.1 G1:142/3093 . Corynebacterium glutamicum Corynebacterium glutamicum Barteria. Actinobacteria. Actinobacteri	AX137714 Sequence 6 f AX137714	TIST COLIGIA	Obl CCTTTGSTCTCATTGCCGTTGCGATTACAGTGGTGACGCATCTTCTTGGTGAATCTTTTTC 021 CCTTGTTGAGCGTTGGCGCTGGCACCATCGTTTTTGTTGACTGAC	961 CCTTTGGTCTCATTGCCGTTGCGATTACAGTGGTGGCGCATCTTCTTGGCGGTCGACGCA	901 TCCTTGCCATTTTGACCGCATCAACGTTTCGCAGCAATGCGATAGATCTGAAGACTCTAA 960
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NICOLE KENNERUKUNEHITO, HERMANN SAHM, LOTHAR EGGERING, WALTER
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/db_xref="taxon:32644"
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DEGUSSA HUELS AG, FORSCHINGSZENTRUM JUELICH GMBH OS Corynebacterium glutamicum ATCC13032
PN JP 2001169788-A/4
PD 26-TUN-2001
PP 24-OCT-2000 JP 2000324315
PR 27-OCT-1999 DE 19951708.8
PI NICOLE KENNERUKUNEHITO, HERMANN SAHM, LOTHAR EGGERING, W
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/organism="unidentified"
/mol_type="genomic DNA"
/db_xref="taxon:32644"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Direct Submission
Submitted (07-NOV-2001) IBT-1,
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Corynebacterium glutamicum
Bacteria; Actinobacteria; Actinobacteridae; Actinomycetalee;
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Kennerknecht, N., Egg
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                                                                                                                                                                                                                            ATCCGGTACTTCTTCGGGAAAGGCTGCTAAATGACAACTGATTTCTCCTGTATTCTCC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted (24-MAY-2002) Satoshi Nakagawa, Kyowa Ltd., Tokyo Research Laboratories; 3-6-6, Asahi-Tokyo 194-8533, Japan (E-mail:snakagawaGaraagen. Tel:81-44-829-3031, Fax:81-44-813-1651) This sequence is conducted by collaboration of K Co. Ltd. And Kitasato University.
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Corynebacterium glutamicum ATCC 13032
Bacteria, Actinobacteria, Actinobacteridae; Actinomycetales;
Corynebacterineae; Corynebacteriaceae; Corynebacterium.
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AP005274.1 GI:21322764
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Asahi-machi,
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PF01751:Poprim domain
PF02518:Histidine kinase-, DNA gyrase B-, phytochrome-l
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VGPHRDDVDLMLGDQPAKGFASHGETWSFALSLRIAEFNLLKSDGTDFILILDDVFSE
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Best Local Sim
Matches 1076;
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Similarity

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Score 1076; DB 1 Pred. No. 1.5e-27 ; Mismatches (

DB 1;

Length 340000; Indels

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complement (8795. .9466)
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QY 121 GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC 180	OY. 61 GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAACCTCCCTT 120	OY 1 GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG 60	Query Match 70.0%; Score 753; DB 6; Length 753; Best Local Similarity 100.0%; Pred. No. 5.6e-189; Matches 753; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	Db 241 ATGCTGGTCANCGCCCTCGTTGTGGGGGCACCGCCCCTGGGGGCACCACA 300 Qy 301 TTGCTGGTGACTTCCCCCACGTATTCTATTGGGTTTTCATTCCGCCTGCATGGGTCACAA 360 Db 301 TTGCTGGTGACTTCCCCGCTATTCTATTGGGTTTTCATTCCGCCTGCATGGGTCAA 360 Qy 361 AACCCCATTGCCCGTTTCTATTGGGTTTTCATTCCACGAAGCCTACGCAGTCACT 420 A1 CCGCCAAGCCCACGGGTGGTGGGCGACTTATCCACGAAGCCTACGCAGTCACT 420 Qy 41 CCGCCAAGCCCCACGGGTGGTGGGCGACTTATCCACGAAGCCTACGAGTCACT 420 A21 CCGCCAAGCCCCACGGGTTGGTCGGCGGGGCACTTATCTCAAGAAGCCTACACGTTCAC 480 Qy 41 CCGCCAAGCCCACGGGTTGGCCGGTTGCGCGGTTATCCAAGAAGCCTACACTTCAA 540 A21 CCGCCAAGCCCACGGGTTGGCCGGTTCCACCGGAAGTGGCAAAGTGAATTCCTTCTCTTGAA 540 A21 CCGCCAAGCCACAAATCCACGTTCGCCGGTTCACCCAGAATTGAATTCCTTCTTGAA 540 A21 CCGCCAAGCCAAAAAGCAATTCCTTCTTCTTTTGTCAAGCTAACTTGAATTCCTTTTGAA 540 A41 TCCTACTGGGTATTCGGCGGTTCTCCCCGGAAGTGGCAAAGTTGAATTCCTTCTGGCAAGTTCACCTTTGAA 540 A41 TCCTACTGGGTATTCTCTTCTTCTTCTTCTTTTGTCAAGCTTAACTTTGATTCCTTCTTGGAAGTTCCTTCTTTGAA 540 A41 TCCTACTGGGTATTCTCTTCTTCTTCTTCTTTTTTTCAAAAGTTGAATTCCTTCTTGGAAGTTCACCTTTCTTT	

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RESULT 13 BD014992 LOCUS DEFINITION ACCESSION VERSION KEYWORDS SOURCE	Qy Db	Ay dd	QV QV	ט אס	Qy	Qy	Oy Db	do VQ	Q V	D QY	Qy	Qy	Qy	Query Best I Matche	ORIGIN
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/translation="montorihsslevspskaalepddkgyrryriagglktslaagl gmypfgiagglyuqgyrwaaaplesglipagstrmlutaluvgaaplgatalttll unfrhypyapssplhvukupiarfysvfalidayavtaarpagwsawrlismgiafh sywypggltdyalarlipetrikgerpalcslevtltldscrtkkgipsllaglsfti aluvipggalfaalliflglltiryfflgkaak"

70.0%; Score 753; DB 6; Lity 100.0%; Pred. No. 5.6e-189; servative 0; Mismatches 0; JAATGGTGGGCAGCCCCACTGTTTTCCGGCCTGATTTTCGCGGGGCTCCACCGAA 240 ATTCCAGGTCAGGCCCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGTTGACC TTCCAGGTCAGGCCCTATTTGCGGCGGCTGCTGATCTTCTTGGGTCTGTTGACC AAAAAGCAGATCCCTTCTGCTGCTGCCAGGTTTGAGCTTCACCATTGCTCTT GOCCTCGAGTTCGCCCTTTGCTCTCTCTTTGTCACGCTGACTTTGGATTCCTGC 600 AGGCCGGCAGGCTGGTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTTCAC 480 ATTGCCCGTTTCTATTCGGTTTTCGCGCTTATCGAAGCCTACGCAGTCACT 420 STGAACTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAA BAATGGTGGGCAGCCCCACTGTTTTCCGGCCTGATTTTCGCGGGCTCCACCGAA 240 GETTIGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC 180 3ATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAAACCTCCCTT 120 NANACGCAAGAGTTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG ACTTCTTCTTGGGAAAGGCTGCTAAA 753 MAAAGCAGATCCCTTCTCTGCTGCTCGCAGGTTTGAGCTTCACCATTGCTCTT GGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAA GGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAA GGCCCGCAGGCTGGTCGGCGACTTATCTCAATGCAAATAGCGTTTCAC 480 NTTGCCCGTTTCTATTCGGTTTTCGCGCTTATCGACGAAGCCTACGCAGTCACT HCATCGCCCTCGTTGTGGGCGCAGCGCCCCTGGGCGCCATCGCGCTCACCACA GTTTGGGCATGTACCCGATTGGTATTGCGTTTTGGTCTCTTGGTTATTCAATAC 180 HATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAACCTCCCTT NAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG ACTICTICTIGGGAAAGGCIGCIAAA 753 Length 753; Indels <u>,</u> Gaps 720 540 540 660 660 360 600 420 300 120 60 720 0

BD014992 753 bp DNA linear PAT 27-AUG-2002 Nucleotide sequence encoding the discharge of branched amino acid, method of isolating the same and utilization thereof. BD014992 BD014992.1 GI:22555799 BD014992.1 GI:22555799 JP 2001169788-A/2.

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                ATTAAGGGCCTCGAGTTCGCCCTTTGCTCTCTCTTGTCACGCTGACTTTGGATTCCTGC
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KYOWA HAKKO KOGYO CO LTD

OS COTYDEBACTETIUM GLUTAMICUM
PN JP 2002191370-A/289

PD 09-JUL-2002
PF 15-DEC-2000 JP 2000405096
PI SATOSHI MAKAGAWA, HIROSHI MIZOGUCHI, SEIKO ANDO, MIKIO HAYASHI, PI KEIKO OCHIAI,
PI HARCHIKO YOKOI, NAOKO TATEISHI, AKHIHRO SENOO, MASATO IKEDA, AKIO PI OZAKI

PC C12N1/15,
PC C12N1/19, C12N1/21, C12N5/10, C12N9/00, C12N9/02, C12P7/40, C12M1/00, PC C12N1/19, C02N1/21, C12N1/02, C12N1/00, C12N1/
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Nakagawa, S., Mizoguchi, H.,
Yokoi, H., Tateishi, N., Senc
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GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTTGGTCTCTTGGTTATTCAATAC 180
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/mol_type="genomic DNA"
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Senoo,A., Ikeda,M. and Ozaki,A.
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813 GCGCTCCGGGCGGTTCC
Qy 753 ATGACAACTGATTTCTCCTGTATTCTCCTTGTTGTCGCAGTATGTGCAGTCATTACTTTT Db 1 ATGACAACTGATTTCTCCTGTATTCTCCTTGTTGTCGCAGTATGTGCAGTCATTACTTTT
Query Match 30.1%; Score 324; DB 6; Length 324; Best Local Similarity 100.0%; Pred. No. 5.5e-75; Matches 324; Conservative 0; Mismatches 0; Indels 0; Gaps
(0
RESULT 15 AR391955 LOCUS AR391955 DEFINITION Sequence 4 from patent US 6613545. ACCESSION AR391955 VERSION AR391955 KEYWORDS KEYWORDS Unknown.
Qy 721 ATCCGGTACTTCTTGGGAAAGGCTGCTAAA 753
Qy 661 GTGGTAATTCCAGGTCAGGCCCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGTTGACC
Qy 601 CGAACGAAAAGCAGATCCCTTCTCTGCTGCTGCAGGTTTGAGCTTCACCATTGCTCTT
Qy 541 ATTAAGGGCCTCGAGTICGCCCTTTGCTCTCTCTTTGTCACGCTGACTTTGGATTCCTGC
Qy 481 TCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAA
Qy 421 GCGGCCAGGCCGCAGGCTGGTCGGCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCAC
Qy 361 AACCCCATTGCCCGTTTCTATTCGGTTTTTCGCGCTTATCGACGAAGCCTACGCAGTCACT
Qy 301 TTGCTGGTGAACTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAA
Qy 241 ATGCTGGTCATCGCCCTCGTTGTGGGCGCAGCGCCCTGGGCGCCATCGCGCTCACCACA
OY 181 GGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGCCTGATTTTCGCGGGGCTCCACCGAA

	н-	301	90
	TTTGTTGGACTGGTGAATCTTTTC 1076	1053	8
TCGTT 3	GTGGCGCATCTTCTTGGCGGTCGACGCACCTTGTTGAGCGTTGGCGCTGGCACCATCGTT 300	241	Ŗ
TCGTT 1	GIGGCGCATCTTCTTGGCGGTCGACGCACCTTGTTGAGCGTTGGCGCTTGGCACCATCGTT 1052	993	Ş
CAGTG 2	AGCAATGCGATAGATCTGAAGACTCTAACCTTTGGTCTCATTGCCGTTGCGATTACAGTG 240	181	ДĎ
CAGTG 9	AGCAATGCGATAGATCTGAAGACTCTAACCTTTGGTCTCATTGCCGTTGCGATTACAGTG 992	933	8
TTCGC 1	AAAATGGCGATGTGGATGCCAGGAATCCTTGCCATTTTGACCGCATCAACGTTTCGC 180	121	В
FILL Sport	AAAATGGCGATGTGGATGCCAGCAGGAATCCTTGCCATTTTGACCGCATCAACGTTTCGC 932	873	Ś
TGGGC 1	61 GCGCTCCGGGCGGTTCCGTTCTTAATCCTTAAGCCCCTACGTGAATCACAATTTGTGGGC 120	61	Дb

Search completed: April 19, 2004, 18:29:53 Job time : 4563.51 secs

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Result
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Maximum Match 100%
Listing first 45 summaries
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Aah21110 C. glutam Aah21112 C. glutam Aah21111 C. glutam Aah221110 C. glutam Aah221111 C. glutam Aah65254 C. glutam Aah65269 C. glutam Aah65269 C. glutam Aah65269 C. glutam Aah661693 C. glutam Aah68373 C. glutam Aah68373 C. glutam Aah68373 C. glutam Aah66874 C. glutam Aah66874 C. glutam Aah61688 C. glutam Aah61888 C. glutam Aah61898 Rice gene enco Ada71938 Rice gene enco Ada71938 Rice gene Ade59610 Human gen Adc91639 B. faeciu Aaa10559 Gene enco Adc769125 Photorhab
                                                                                                                                                                                                                                                                                             Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 1
AAH21109
ID AAH2
   CDS
This invention describes a novel isolated polynucleotide
                        Claim 4 (i); Page 13; 23pp; German
                                               New export genes from coryneform bacteria, useful for increasing fermentative production of branched-chain amino acids.
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ALIGNMENTS

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L-amino acid production; brnF; brnE; branched-chain amino acid; coryneform bacterium; leucine; isoleucine; valine; medicine; animal nutrition; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C. glutamicum DNA encoding brnF and brnE
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WPI; 2001-391595/42.
P-PSDB; AAB86247, AAB86248.
                                                                                                                                                       27-OCT-1999; 99DE-01051708.
                                                                                                                                                                                            11-OCT-2000; 2000EP-00122057
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                                                         Kennerknecht N, Eggeling L,
                                                                                                (DEGS )
                                                                                                DEGUSSA AG.
FORSCHUNGSZENTRUM JUBLICH GMBH.
                                                                                                                                                                                                                                                                                                                                        /*tag= a
/product= "brnF"
853. .1179
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Query Match
Best Local Similarity
Matches 1076; Conserv
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GTGGTAATTCCAGGTCAGGCCCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGTTGACC
                                                           CGAACGAAAAAGCAGATCCCTTCTCTGCTGCTCGCAGGTTTGAGCTTTCACCATTGCTCTT
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Pred. No. 0;
0; Mismatches
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This invention describes a novel isolated polynucleotide (I) at least one sequence that (i) is 70% identical with a sequen encodes at least one of 251 amino acid (aa) (3) or 108 aa (5)
                                                                                                                                                                                                                                                                                                                                                                        L-amino acid production; brnF; coryneform bacterium; leucine; animal nutrition; ds.
                                                              New export genes from fermentative production
                                                                                                                                                                                                                     02-MAY-2001.
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                                                                                                WPI; 2001-391595/42.
                                                                                                                    Kennerknecht N,
                                                                                                                                          (DEGS )
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FORSCHUNGSZENTRUM JUELICH
                                           (i); Page 17-18; 23pp;
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                                                                production
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                                                                                                                                                                                                                                                                                  /product= "brnF"
853. .1179
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                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                              product= "brnE"
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on of branched-chain a
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                                                                          CCTTTGGTCTCATTGCCGTTGCGATTACAGTGGTGGCGCATCTTCTTGGCGGTCGACGCA 1020
                                                                                                                   TCCTTGCCATTTTGACCGCATCAACGTTTCGCAGCAATGCGATAGATCTGAAGACTCTAA
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26-SEP-2001 **AAH64966** standard; (first DNA; entry) 349980 ₽P

glutamicum coding sequence fragment

SEQ ID

NO:

Coryneform bacterium; amino organic acid synthesis; ds. organic acid synthesis; vitamin; saccharide;

Corynebacterium glutamicum

18-DEC-2000; 2000EP-00127688

16-DEC-1999; 99JP-00377484. 07-APR-2000; 2000JP-00159162. 03-AUG-2000; 2000JP-00280988.

(KYOW) KYOWA HAKKO KOGYO

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'n, Mizoguchi Senoh A, i H, Ando Ikeda M, S, Hayashi Ozaki A; 3 Ochiai × Yokoi

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WPI; 2001-376931/40.

Novel polynucleotides derived from Coryneform bacteria, for identifying mutation point of a gene, measuring expression of a gene, analyzing expression profile or pattern of a gene and identifying homologous gene gene.

Claim 7; SEQ ID NO 1; 246pp + Sequence Listing; English.

RESULT 3
AAH64966
AC AAH6
AC COT
AC The present invention provides a number of nucleotide and protein sequences from the Coryneform bacterium Corynebacterium glutamicum. These are useful for identifying the mutation point of a gene derived from a mutant of coryneform bacterium, measuring expression amount and analysing the expression profile or expression pattern of a gene derived from Coryneform bacterium, and identifying a homologue of a gene derived from coryneform bacterium. Coryneform bacteria are useful for producing amino particularly L-lysine. The present sequence is a nucleic acid described in the exemplification of the invention. Note: The sequence data for this pattent did not form part of the printed specification, but was obtained and analysing

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77728	841 TTAAGCCCCTACGTGAATCACAATTTGTGGGCAAAATGGCGATGTGGATGCCAGCAGGAA 90 	β 5
	81 TIGITGICGCAGTATGIGCAGTCATTACTTTIGCGCTCCGGGCGGTTCCGTTCTTAATCC 8	B 8
77608	IGACAACTGATTTC'	B &
77548	277489 GTGGTAATTCCAGGTCAGGCCCTATTTGCGGCGCTGGTGATCTTCTTGGGTCTGACC 27	ል የ
77488	O1 CGAACGAAAAAGCAGATCCCTTCTCTGCTGCTGCTGCAGGTTTGAGCTTCACCATTGCTCTT 6 [B 8
77428	541 ATTAAGGGCCTCGAGTTCGCCCTTTGCTCTCTCTTTGTCACGCTGACTTTGGATTCCTGC 60	B 8
77368	481 TCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAA 54	Å 4
7308	421 GCGGCCAGGCCGCAGGCTGGTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCAC 48	B 64
7248	361 AACCCCATTGCCCGTTTCTATTCGGTTTTCGCGCTTATCGACGAAGCCTACGCAGTCACT 42	B 8
7188	301 TIGCIGGIGAACTICCGCCACGTAIICTAIGCGIITICAIICCGCTGCAIGIGGICAAA 36 	dg Vŷ
7128	241 ATGCTGGTCATCGCCCTCGTTGTGGGCGCAGCGCCCCTGGGCGCCATCGCGCTCACCACA 30	D 64
7068	181 GGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGCCTGATTTTCGCGGGGCTCCACCGAA 24	å S
0 7008	121 GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC 18	å å
6 9 4 8	61 GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAACCTCCCTT 12 	B 8
6888	1 GTGCAAAAAAGGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG 60 	B 8
0;	<pre>iery Match 100.0%; Score 1076; DB 5; Length 349980; sst Local Similarity 100.0%; Pred. No. 0; stches 1076; Conservative 0; Mismatches 0; Indels 0; Gaps</pre>	M B C C C C C C C C C C C C C C C C C C
	Sequence 349980 BP; 79703 A; 91547 C; 98381 G; 80349 T; 0 U; 0 Other;	SS.
	in electronic format directly from the European Patent Office	S X

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Query Match 70.0%; Score 753; DB 4; Length 753; Best Local Similarity 100.0%; Pred. No. 8.1e-227; Matches 753; Conservative 0; Mismatches 0; Indels 0; Gaps

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1 GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG 60

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RESULT 5
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                                                                     20-JUN-2001.
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Sequence 753

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                                                             The present invention provides a number of nucleotide and protein sequences from the Coryneform bacterium Corynebacterium glutamicum. These are useful for identifying the mutation point of a gene derived from a mutant of coryneform bacterium, measuring expression amount and analysing the expression profile or expression pattern of a gene derived from coryneform bacterium, and identifying a homologue of a gene derived from coryneform bacterium. Coryneform bacteria are useful for producing amino acids, nucleic acids, vitamins, saccharides and organic acids, particularly L-lysine. The present sequence is a nucleic acid described in the exemplification of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from the European Patent Office
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07-APR-2000; 2000JP-00159162.
03-AUG-2000; 2000JP-00280988.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel polynucleotides derived from Coryneform bacteria, for identifying mutation point of a gene, measuring expression of a gene, analyzing expression profile or pattern of a gene and identifying homologous gene
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                                                                                                                                                                        Query Match
Best Local S
Matches 564
                                                                                                                                                                                                                                                                                                                                             This invention describes a novel nucleic acid array involving Corynebacterium glutamicum polynucleotides. The arrays are used to corynebacterium glutamicum polynucleotides. The arrays are used to analyse C. glutamicum, particularly for monitoring a fermentation process to determine expression levels of C. glutamicum cellular mRNA. Such monitoring particularly differentiates between expression levels of different strains of C. glutamicum and allows the adjustment of different culture and fermentation conditions. ACA00010-ACA02188 represent C. glutamicum derived polynucleotides described in the disclosure of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New nucleic acid array useful for Corynebacterium glutamicum during from Corynebacterium glutamicum.
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                                                                            ATGGTGGGCAGCCCACTGTTTTCCGGCCTGATTTTCGCGGGCTCCACCGAAATGCTGGT
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                                                                                                                                                                                                                                                                         A; 167
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                                                                                                                                                                     Score 553; DB 7;
Pred. No. 9.9e-164
D; Mismatches 0
                                                                                                                                                                                                                                                                         144 G; 162 T;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            monitoring mRN fermentation,
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                                                                                                                                                                        .9e-164;
les 0;
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                                                                                                                                                                                                                                                               L-amino acid production; brnF; coryneform bacterium; leucine; animal nutrition; ds.
                                                                                                                                                                                                                                                                                                         C. glutamicum
                                                                                                                                                                                                                                                                                                                                05-SEP-2001
                                                                                                                                                                                                                                                                                                                                                   AAH21111;
                                                                                                                                                                                                                                                                                                                                                                       AAH21111 standard; DNA; 324
                    Claim 5; Page 16; 23pp;
                                       New export genes from coryneform bacteria, useful for fermentative production of branched-chain amino acids
                                                                                                      Kennerknecht N,
                                                                                                                                                         27-OCT-1999;
                                                                                                                                                                              11-OCT-2000; 2000EP-00122057
                                                                                                                                                                                                   02-MAY-2001.
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                                                                                                                                                                                                                                            Corynebacterium
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 CATCGCCCTCGTTGTGGGCGCA-CGCCCCTGGGCGCCATCGCGCTCACCACATTGCTGGT
                                                                        AAB86248
                                                                                                                           DEGUSSA AG.
FORSCHUNGSZENTRUM JUELICH GMBH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAACTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAAAACCCCCAT
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describes a novel
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This invention

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                                                                                                                                                                                                                                  Corynebacterium glutamicum
                                                             18-DEC-2000; 2000EP-00127688
                                                                                                                                                                                                                                                                                   Coryneform bacterium; amino acid synthesis; vitamin; saccharide; organic acid synthesis; ds.
      16-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                      26-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAH65255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAH65255 standard;
                                                                                                                    20-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                        glutamicum coding sequence
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      99JP-00377484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA;
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Pred. No. 1.5e-91;
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(first entry

ACA01970 standard; DNA; 324

ВP

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C. glutamicum derived ORF SEQ ID 1961.

nucleic acid array;

fermentation; culture;

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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present invention provides a number of nucleotide and protein sequences from the Coryneform bacterium Corynebacterium glutamicum. These are useful for identifying the mutation point of a gene derived from a mutant of coryneform bacterium, measuring expression amount and analysing the expression profile or expression pattern of a gene derived from Coryneform bacterium, and identifying a homologue of a gene derived from coryneform bacterium. Coryneform bacteria are useful for producing amino acids, nucleic acids, vitamins, saccharides and organic acids, particularly L-lysine. The present sequence is a nucleic acid described in the exemplification of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from the European Patent Office
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Novel polynuclectides derived from Coryneform bacteria, for identifying mutation point of a gene, measuring expression of a gene, analyzing expression profile or pattern of a gene and identifying homologous gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 324 BP; 60 A; 79 C; 80 G; 105 T; 0 U;
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Tateishi N,
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03-AUG-2000; 2000JP-00280988.
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                                                                                                                                                                                                                                                                                                   GCGCTCCGGGCGGTTCCGTTAATCCTTAAGCCCCTACGTGAATCACAATTTGTGGGC
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                       TTTGTTGGACTGGTGAATCTTTTC 1076
                                                                  GTGGCGCATCTTCTTGGCGGTCGACGCACCTTGTTGAGCGTTGGCGCTGGCACCATCGTT
                                                                                         GTGGCGCATCTTCTTGGCGGTCGACGCACCTTGTTGAGCGTTGGCGCCTTGGCACCATCGTT
                                                                                                                                  AGCAATGCGATAGATCTGAAGACTCTAACCTTTGGTCTCATTGCCGTTGCGATTACAGTG
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.larity 100.0%;
Conservative
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Senoh A,
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Ikeda M,
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Pred. No. 1.5e
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Ozaki A;
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1.5e-91;
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ARESULT 10
AAF61693/c
ID AAF616
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AC AAF616
XX AAF616
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Best Local S
Matches 324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This invention describes a novel nucleic acid array involving Corynebacterium glutamicum polynucleotides. The arrays are used to corynebacterium glutamicum, particularly for monitoring a fermentation process to determine expression levels of C. glutamicum cellular mRNA. Such monitoring particularly differentiates between expression levels of different strains of C. glutamicum and allows the adjustment of different culture and fermentation conditions. ACA00010-ACA02188 represent C. glutamicum derived polynucleotides described in the disclosure of the
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New nucleic acid array useful for Corynebacterium glutamicum during from Corynebacterium glutamicum.
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             C. glutamicum
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                                                                                                                                                                                                                                                                               AGCAATGCGATAGATCTGAAGACTCTAACCTTTGGTCTCATTGCCGTTGCGGATTACAGTG
                                                                                                                                                                            TTTGTTGGACTGGTGAATCTTTTC 1076
                                                                                                                                                                                                                                     GTGGCGCATCTTCTTGGCGGTCGACGCACCTTGTTGAGCGTTGGCGCTGGCACCATCGTT
                                                                                                                                                                                                                                                                                                                 AAAATGGCGATGTGGATGCCAGCAGGAATCCTTGCCATTTTGACCGCATCAACGTTTCGC
                                                                                                                                                                                                                                                                                                                                        AAAATGGCGATGTGGATGCCAGCAGGAATCCTTGCCATTTTGACCGCATCAACGTTTCGC
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100.0%; Pr
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Pred. No. 1
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                 fragment SEQ
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RESULT 11
AAF61695/c
ID AAF616
XX
AC AAF616
XX
AC AAF616
XX
DT 12-JUL
XX
DE C. glu

12-JUL-2001 AAF61695;

(first entry)

glutamicum

lrp

encoding

DNA

fragment

SEQ

IJ

AAF61695

standard; DNA; 778

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Query Match
Best Local S
Matches 276
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                                                                                                                                                                                                                                                        224 GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAACCTCCCTT
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                                                                                                                                                                                                                                                                                                                                         GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG
                                                                                                                                                                                               GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC
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                           ATGCTGGTCATCGCCCTCGTTGTGGGCGCAGCGCCCCTGG
                                                                                                            GGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGGCCTGATTTTCGCGGGGCTCCACCGAA
                                                                                                                                                                    GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTTCTTGGTTATTCAATAC
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ATGCTGGTCATCGCCCTCGTTGTGGGCGCACGCCCCCGGG
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                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
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98.6%;
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acids, par
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particularly lysine and isoleucine.
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RESULT 12
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AC AAH68
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Matches 276;
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at least the lrp gene has been weakened or amplified, then isolating
amino acids that have accumulated in the medium or cells. (I) is used to
transform coryneforms for production of L-amino acids, specifically
lysine and isoleucine, which are used in medicine and particularly as
animal feed supplement. It may also be used as probes and primers for
isolating related sequences. Regulating expression of (I) improves
production of amino acids, especially of L-lysine. This sequence encodes
a fragment of the Corynebacterium glutamicum lrp protein which is used in
the method described in the invention
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medicine; animal feed
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 778
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2001-292927/31
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               26-SEP-2001
                                         AAH68373
                                                                 AAH68373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New lrp gene from coryneform bacteria, used to prepare transformants with increased synthesis of amino acids, particularly lysine and isoleucine.
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                                                                                                                                                                                                                                                                                                                                                  GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG
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                                                                  standard;
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              (first entry)
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07-APR-2000;
03-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present invention provides a number of nucleotide and protein sequences from the Coryneform bacterium Corynebacterium glutamicum. These are useful for identifying the mutation point of a gene derived from a mutant of coryneform bacterium, measuring expression amount and analysing the expression profile or expression pattern of a gene derived from coryneform bacterium, and identifying a homologue of a gene derived from coryneform bacterium. Coryneform bacteria are useful for producing amino acids, nucleic acids, vitamins, saccharides and organic acids, particularly L-lysine. The present sequence is a nucleic acid described in the exemplification of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from the European Patent Office
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Tateishi
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Senoh A,
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Pred. No. 2.7e-29;
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                                                                                                            This invention describes a novel nucleic acid array involving Corynebacterium glutamicum polynucleotides. The arrays are used to corynebacterium glutamicum polynucleotides. The arrays are used to analyse C. glutamicum, particularly for monitoring a fermentation process to determine expression levels of C. glutamicum cellular mRNA. Such monitoring particularly differentiates between expression levels of different strains of C. glutamicum and allows the adjustment of different culture and fermentation conditions. ACA00010-ACA02188 represent C. glutamicum derived polynucleotides described in the disclosure of the
                                                                            Sequence 711 BP; 123
                                                                                                                                                                                                                              Claim 1; Page 456; 709pp; German.
                                                                                                                                                                                                                                                                  New nucleic acid array useful for Corynebacterium glutamicum during
                                                                                                                                                                                                                                                                                                            WPI; 2003-279970/28
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Matches 318
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llarity 51.5%; Pred. No. 6e-
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                                                                                                                                                                                          This invention describes a novel nucleic acid array involving Corynebacterium glutamicum polynucleotides. The arrays are used to analyse C. glutamicum, particularly for monitoring a fermentation process to determine expression levels of C. glutamicum cellular mRNA. Such monitoring particularly differentiates between expression levels of different strains of C. glutamicum and allows the adjustment of different culture and fermentation conditions. ACA00010-ACA02188 represent C. glutamicum derived polynucleotides described in the disclosure of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C. glutamicum derived ORF SEQ ID 1959.
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                      61 GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTC 106
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                                                                   1 GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG
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SUMMARIES

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RESULT 2
US-09-471-803A-6
Sequence 6, Application US/09471803A
PACENT NO. 6613545
GENERAL INFORMATION:
APPLICANT: KENNERKNECHT, NICOLE
APPLICANT: SAHM, HERMANN
APPLICANT: BEGLING, LOTHAR
APPLICANT: PREFERLE, WALTER
TITLE OF INVENTION: NUCLEOTIDE SEQUENCE CODING FOR THE EXPORT OF
TITLE OF INVENTION: BRANCHED CHAIN AMINO ACIDS, PROCESS FOR THE
TITLE OF INVENTION: ACCIDATION THEREOF AND USE THEREOF
FILE REFERENCE: 21123/265496/MAS
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FEATURE:
NAME/KEY: gene
LOCATION: (101)..(853)
OTHER INFORMATION: brnF
NAME/KEY: gene
LOCATION: (853)..(1176)
OTHER INFORMATION: brnE
OTHER INFORMATION: ATCC13032
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CURRENT FILING DATE: 1999-12-23
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR FILING DATE: 1999-10-27
NUMBER OF SEQ ID NOS: 12
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GENERAL INFORMATION:

APPLICANT: KENNERKNECHT, NICOLE

APPLICANT: SAEM, HERMANN

APPLICANT: EGGELING, LOTHAR

APPLICANT: EGGELING, LOTHAR

APPLICANT: PEFFERLE, WALTER

TITLE OF INVENTION: NUCLECTIDE SEQUENCE CODING FOR THE EXPORT OF

TITLE OF INVENTION: BRANCHED CHAIN AMINO ACIDS, PROCESS FOR THE

TITLE OF INVENTION: ISOLATION THEREOF AND USE THEREOF

FILLE REFERENCE: 21123/265496/MAS

CURRENT APPLICATION NUMBER: US/09/471,803A

CURRENT FILING DATE: 1999-12-23

FRIOR APPLICATION NUMBER: DE 199 51 708.8

PRIOR PILING DATE: 1999-10-27

NUMBER OF SEQ ID NOS: 12

SOFTWARE: Patentin Ver. 2.1

SEQ ID NO 2

LENGTH: 753

TYPE: DNA

ORGANISM: Corynebacterium glutamicum

FEATURE: Corynebacterium glutamicum
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                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:
NAME/KRY: CDS
LOCATION: (1)..(753)
OTHER INFORMATION: brnF
OTHER INFORMATION: ATCC14752
                                                                                                                                                                                                                                                                                                                                              Local Similarity
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                                                                              GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC
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APPLICANT: KENNERKNECHT, NICOLE
APPLICANT: SAHM, HERWANN
APPLICANT: SAHM, HERWANN
APPLICANT: SAHM, HERWANN
APPLICANT: PEFFERLE, WALTER
APPLICANT: PEFFERLE, WALTER
TITLE OF INVENTION: NUCLEOTIDE SEQUENCE CODING FOR THE EXPORT OF
TITLE OF INVENTION: SEAUCHED CHAIN AMINO ACIDS, PROCESS FOR THE
TITLE OF INVENTION: ISOLATION THEREOF AND USE THEREOF
FILE REFERENCE: 21123/265496/MAS
CURRENT APPLICATION NUMBER: US/09/471,803A
CURRENT FILING DATE: 1999-12-23
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR FILING DATE: 1999-10-27
NUMBER OF SEQ ID NOS: 12
SOFTMARE: PATENTIN VET: 2.1
SEQ ID NO 4
LENGTH: 324
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                                                                                                        ; NAME/KEY: CDS;
; LOCATION: (1).. (324)
; OTHER INFORMATION: brnE
; OTHER INFORMATION: ATCC14752
US-09-471-803A-4
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US-09-471-803A-4
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                                     Matches
                                                     Query Match
Best Local
                                                                                                                                                                                                  TYPE: DNA
ORGANISM: Corynebacterium glutamicum
FEATURE:
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                                                     Similarity
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                                     Conservative
                                                     30.1%;
                               753
                                                                     Length 324;
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RESULT 5
US-09-489-039A-3016
US-09-489-039A-3016
; Sequence 3016, Application US/09489039A
; Patent No. 6610836
; Patent No. 6610836
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                           RESULT 6
US-08-232-463-14
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TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA.
; TITLE OF INVENTION: PNEUMONIAE FOR DIAGNOSTICS AND THERAPEUTICS
; ETLE REFERENCE: 2709.2004001
; CURRENT APPLICATION NUMBER: US/09/489,039A
; CURRENT FILING DATE: 2000-01-27
; PRIOR APPLICATION NUMBER: US 60/117,747
; PRIOR APPLICATION NUMBER: US 60/117,747
; PRIOR FILING DATE: 1999-01-29
; NUMBER OF SEQ ID NO 3016
; LENGTH: 756
; TYPER: NEWS
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; ORGANISM: Klebsiella pneumoniae
US-09-489-039A-3016
 Sequence 14, Application US/08232463 Patent No. 5670367
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Best Local Similarity
Matches 130; Conserv
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                                                                                           CTTCACTGC 310
                                                                                                                          TTTCATTCC 343
                                                                                                                                                      CGCTGTGGGTCGCCCCTGACGGTGATGGCGATGGATGTCCCGCCACGTGCTGTATGGCC
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                                                                                                                                                                                                                                                                                                            CGTTTGGTCTCTTGGTTATTCAATACGGCTACGAATGGTGGGCAGCCCCACTGTTTTCCG
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                                                                                                                                                                                                                                                                                                                                                                                                                   52.2%;
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US-08-232-463-14
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APPLICANT: DORNER
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CITY: Alexandria
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Query Match 4.9%; Score 52.4; DB 1; Best Local Similarity 3.6%; Pred. No. 3e-06; Matches 14; Conservative 221; Mismatches 157;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE: 26-AUG-1991
ATTORNEY/AGENT INFORMATION:
NAME: BENT, Stephen A.
REGISTRATION NUMBER: 29,768
REFERENCE/DOCKET NUMBER: 3047
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)836-9300
TELEPHONE: (703)836-9300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: (703)683-410:
TELEX: 899149
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version
CURRENT APPLICATION DATA:
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APPLICANT: FALKNER, F.G.
TITLE OF INVENTION: RECOMBINANT FOWLPOX VIRUS
NUMBER OF SEQUENCES: 52
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION DATA:
APPLICATION NUMBER:
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APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRANDEDNESS: single TOPOLOGY: linear
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                                                                                                                                                                                                                                                                                                                                       nucleic acid
                                                                                                                                                                                                                                                                                                CTGATTTCTCCTGTATTCTCCTTGTTGTCGCAGTATGTGCAGTCATTACTTTTGCGCTCC
                                                                                                       ATCTTCTTGGGTCTGTTGACCATCCGGTACTTCTTCTTGGGAAAGGCTGCTAAAIGACAA 759
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                                                                      TTGAGCTTCACCATTGCTCTTGTGGTAATTCCAGGTCAGGCCCTATTTGCGGCGCTGCTG
E: Foley & Lardner
1800 Diagonal Road,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DORNER, F.
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US-09-107-532A-1266
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Patent No. 6583275
GENERAL INFORMATION:
APPLICANT: LYMN A DOUCETTE-Stamm
TITLE OF INVENTION: NUCLEIC ACID
ENTEROCOCCUS
                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INFORMATION
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PRIOR APPLICATION NUMBER: 60/085,598

FILING DATE: 14 May 1998

APPLICATION NUMBER: 60/051571

FILING DATE: July 2, 1997

ATTORNEY/AGENT INFORMATION:

NAME: Ariniello, Pamela Deneke

REGISTRATION NUMBER: 40,489
                                                                                                                                                                                                                                                                                                                                        NAME/KEY: misc feature
LOCATION: (B) LOCATION 1...768
SEQUENCE DESCRIPTION: SEQ ID NO: 1266:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: nucleic acid
STRANDEDNESS: double
TOPOLOGY: circular
MOLECULE TYPE: DNA (genomic)
HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE/DOCKET NUMBER: GTC-012
TELECOMMUNICATION INFORMATION:
TELEPHONE: (781)893-5007
TELEPAX: (781)893-8277
WANTION FOR SEQ ID NO: 1266:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: ASCII
CURRENT APPLICATION NUMBER: US/09/107,532A
APPLICATION NUMBER: US/09/107,532A
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ORGANISM: Enterococcus faecium
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  212
                                      227
                                                                             152
                                                                                                                                                                                                 107 TANAAACCTCCCTTGCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTTGGTCTCT 166
                                                                                                                    167 IGGITATICAATACGGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGCCTGATTTTCG
                                                                                                                                                                                                                                          al Similarity
104; Conserv
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                                      ceeecrocacceananiecreercarcecccccrarrereececaceccccraeececcca
                                                                               TTGGGAAAGCTGCCGGATTTCATCCACTAGTCGTCACGTTGATGTCCCTGCTGGTCTATG
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  CTGGTTCTGCCCAATTTATCACAGTCAGCATGCTTGCTAGTCACAGCCCATTGCTTTCCA
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209 TTTCCGGCCTGATTTTCGCGGGCTCCACCGAAATGCTGGTCATCGCCCTCGTTGTGGGCG 268

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Query Match
Best Local Similarity
""-"hes 77; Conserve
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; ORGANISM: Pseudomonas aeruginosa
US-09-252-991A-11376
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                                                                       ; TYPE: DNA
; ORGANISM: Pseudomonas aeruginosa
US-09-252-991A-11418
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TITLE OF INVENTION: NUCLEIC ACID AND ANINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: APUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
ETLE REFERENCE: 107196.136
CURRENT PILLING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
PRIOR FILING DATE: 1998-02-18
PRIOR FILING DATE: 1998-02-18
PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
SEQ ID NO 11376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 11376, Application US/09252991A Patent No. 6551795
                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
APPLICANT: Marc J.
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                                                                                                                            SEQ ID NO 11418
LENGTH: 1086
                                                                                                                                                                                                                                                                                                                                                                                          Sequence 11418, Application US/09252991A Patent No. 6551795
Matches
                 Query Match
Best Local :
                                                                                                                                                            APPLICANT: Marc J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND ANINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: AUGUSIOSA FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 107196.136
CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
PRIOR PILING DATE: 1998-07-218
PRIOR PILING DATE: 1998-07-27
NUMBER: 0F SEQ ID NOS: 33142
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               Local
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Similarity 77; Conserv
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               55.0%;
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                 Score 39.2; DB Pred. No. 0.019;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           612
   Mismatches
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                                   DB 4;
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RESULT 10
US-09-621-976-8976/c
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US-09-621-976-8976
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CURRENT FILING DATE: 2000-07-21
NUMBER OF SEQ ID NOS: 19335
SOFTWARE: Patent.pm
SEQ ID NO 8976
LENGTH: 399
                                                                                                              NUMBER OF SEQ ID NOS: 19335
SOFTWARE: Patent.pm
SEQ ID NO 18033
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                    Patent No. 663906
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TITLE OF INVENTION: ESTS and
FILE REFERENCE: GENSET.054PR2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Dumas Milne Edwards, APPLICANT: Jobert, S.
                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/09/621,976
CURRENT FILING DATE: 2000-07-21
                                                                                                                                                                                                               APPLICANT: Giordano, J.Y.
TITLE OF INVENTION: ESTs and Encoded Human Proteins
FILE REFERENCE: GENSET.054PR2
                                                                                                                                                                                                                                                                           APPLICANT: Dumas Milne Edwards, APPLICANT: Jobert, S.
NAME/KEY: misc_feature
LOCATION: 16
                                                         ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        509 GAGTGGCGATCGCAGAGTTGATTCCTTTTGAAATTAAGGGCCTCGAGTTCGCCCTTTGCT 568
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Pred. No. 0.012;
2; Mismatches
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US-09-22-991A-3205/c
US-09-22-991A-3205/c
; Sequence 3205, Application US/09252991A
; Patent No. 6551795
; Patent No. 6551795
; GENERAL INCRMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; OTHER INFORMATION: n=a, US-09-621-976-18033
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                                                                              RESULT 13
US-09-252-991A-2761
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PRIOR FILING DATE: 1998-02-18
PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
SEQ ID NO 3205
LENGTH: 1140
TYPE: DNA
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Best Local
                   Patent No. 6551795
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local :
                                          Sequence 2761, Application US/09252991A Patent No. 6551795
                                                                                                                                                                                                                                                                                                                       Matches
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CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1999-02-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Marc J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Pseudomonas aeruginosa
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les 49; Conserv
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Local Similarity 58.0%;
es 65; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            482 CCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAAA
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  Marc J.
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    Rubenfield et al
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14.4%;
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Pred. No.
                                                                                                                                                                                                                                                                                                                                        Score 36.8; DB Pred. No. 0.12;
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                                                                                                                                                                                                                                                                                                                                                             Length 1140;
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Matches

30;

TYPE: DNA

RESULT US-09-6

FEATURE:

TYPE: DNA LENGTH: 474 맑 Ś 밁 Š 맑 Ş 밁 S

62

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FILE REFERENCE: 107196.136
CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
PRIOR FILING DATE: 1998-02-18
PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR FILING DATE: 1998-07-27
PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 14
US-09-020-956-12/c
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Best Local S
Matches 65
                                                                                                                                                                                 FILING DATE: 09-FEB-1998
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: MAKI, DAVId J.
REGISTRATION NUMBER: 31,392
REFERENCE/DOCKET NUMBER: 2101:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (206) 622-4900
TELEPHONE: (206) 682-6031
INFORMATION FOR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
LENGTH: 751 base pairs
TYPE: THICLES ASSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 12, Application US/09020956
Patent No. 6261562
Query Match
Best Local Similarity 59.8%;
Matches 58; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -09-252-991A-2761
                                                                                      MOLECULE TYPE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: DNA
ORGANISM: Pseudomonas aeruginosa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ENGTH: 2061
                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDIUM TYPE: Floppy disk
CONPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/99/020,95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Xu, Jiangchun APPLICANT: Dillin, Davin C. APPLICANT: Dillin, Davin C. TITLE OF INVENTION: COMPOUNDS FOR IMMUNOTHERAPY OF PROSTATE CANCER AND METHODS FO NUMBER OF SEQUENCES: 178

CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity 58.0 tes 65; Conservative
                                                                                                                                            LENGTH: 751 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
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                                                                                                                               TOPOLOGY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      us/09/020,956
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  Score 36.4; DB 3; Length 751; Pred. No. 0.12; 0; Mismatches 39; Indels
                                                                                                                                                                                                                                                                                                                           210121.427C2
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Search completed: April 19, 2004, 18:38:09 Job time : 96.5988 весв

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US-09-030-607-12
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APPLICANT: Xu, Jiangchun
APPLICANT: Dillon, Davin C.

TITLE OF INVENTION: COMPOUNDS
NUMBER OF SEQUENCES: 224
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    bequence 12, Application US/09030607
Patent No. 6262245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIA Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/030,607
FILING DATE: 25-FEB-1998
CLASSIFICATION: 52-FEB-1998
ATTORNEY/AGENT INFORMATION:
NAME: Maki, David J.
REGISTRATION NUMBER: 210121.427C3
REFERENCE/DOCKET NUMBER: 210121.427C3
TELECOMMUNICATION INFORMATION:
TELEPHONE: (206) 622-4900
TELEPHONE: (206) 622-4900
                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: (206) 682-6031
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRANDEDNESS: sir
TOPOLOGY: linear
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ilarity 59.8%;
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                                                                                                                                                                                                                                                                                                        Score 36.4; DB Pred. No. 0.12; 0; Mismatches
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                                                                                                                                                                                                                                                                                                            39;
                                                                                                                                                                                                                                                                                                                                                                                 3; Length 751;
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Minimum
Maximum
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No.
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Perfect score:
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re greater than or equal to the score of the result being printed
is derived by analysis of the total score distribution.
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length: 2000000000
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1: /cgn2
2: /cgn2
3: /cgn2
4: /cgn2
5: /cgn2
7: /cgn2
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1076
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Maximum Match 100%
Listing first 45 summaries
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/cgn2 6/ptodata/1/pna/US06 NEW_COMB.seq:*
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(c) 1993 - 2004 Compugen Ltd
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US-10-767-701-5263
US-10-767-701-5263
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US-10-767-701-744
US-10-767-701-744
US-10-767-701-744
US-10-767-701-744
US-10-767-701-744
US-10-767-701-938
US-10-767-701-9394
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US-10-767-701-954
US-10-767-701-954
US-10-767-701-954
US-10-767-701-954
US-10-775-920-136
US-10-755-303-458
US-60-555-303-458
US-60-555-303-458
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Sequence 10854, A Sequence 5263, Ap Sequence 5263, Ap Sequence 1181, A Sequence 1151, A Sequence 7545, Ap Sequence 62, App Sequence 62, App Sequence 5886, Ap Sequence 716, Ap Sequence 1934, A Sequence 1934, A Sequence 1934, A Sequence 2018, A Sequence 2189, A Sequence 1937, Ap Sequence 137, App Sequence 137, App Sequence 136, App Sequence 459, App Sequence 459, App Sequence 626, App Sequence 627, App Sequence 628, App Sequence 628, App Sequence 630, App Sequence 630, App Sequence 631, App Sequence 634, App Sequence 636, App Sequ
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US-10-767-701-10854

ALIGNMENTS

RESULT 1

Sequence 10854, Application US/10767701
; GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
APPLICANT: Edou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules a
TITLE OF INVENTION: Plants and Uses Thereof
FILE REFERENCE: 38-21(53535)B
CUTRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 10854
LENGTH: 1014
TYPE: DNA
COGANISM: Sorghum bicolor
FEATURE:
OTHER THEORYMATTON: Close ID: CORBIT-TEMPONATON. Acid Molecules and Ot and Uses Thereof For Other Molecules Associated With or Plant Improvement

; OTHER INFORMATION: Clone ID: SORBI-28MAY03-CLUS47627_1 US-10-767-701-10854

Ś В 8 밁 Ś Ś 밁 Matches Query Match Best Local 142 191 131 202 105; 82 22 Similarity egregecaeccecacrerrrrcceeccrearrrrcceeccreacceecrecaaaarecreerca gécédertécrédédéderergédééééeserrecrédedédédAcéArcerédrécrer AGTCCTGGGGCCCTCTTTTGGCAAGGTGTTCTTTGGCGGCCTCGGTCGTCGCCCACCTCG regecareraccearregrafrecerrregrererrerrearrearracegeracearr GGTCCGTCCTCGCCTCCGTCTTCTCCCTCC 234 ACTICCGCCACGIATICIATGCGITTTCATICC 343 TCGCCCTCGTTGTGGGCGCAGCGCCCTGGGCGCCATCGCGCTCACCACATTGCTGGTGA 310 redrecreakeareseses estes reserves en redreces este en Conservative 49.3%; 0 Score 40.2; DB 6; Length 1014; pred. No. 0.0073; Oj; Mismatches 108; Indels 0 0 Gaps 201 141 250 81 0

RESULT 2
US-10-417-884A-1266
JS-10-417-884A-1266
Sequence 1266, Application US/10417884A
GENERAL INFORMATION:
APPLICANT: Lynn A Doucette-Stamm
TITLE OF INVENTION: NUCLEIC ACID
ENTEROCOCCUS and David Bush AND AMINO ACID SEQUENCES RELATING TO FAECIUM FOR DIAGNOSTICS AND THERAPEUTICS

CORRESPONDENCE ADDRESS:
ADDRESSEE: GENOME THERAPEUTICS CORPORATION

NUMBER OF SEQUENCES:

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RESULT 3
US-10-767-701-5263
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NAME: AXIATELLO, Pamela Deneke
REGISTRATION NUMBER: 40,489
REFERENCE/DOCKET NUMBER: GTC-012
TELECOMMUNICATION INFORMATION:
TELEPHONE: (781)893-5007
TELEPHONE: (781)893-8277
INFORMATION FOR SEQ ID NO: 1266:
SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
Sequence 5263, Application US/10767701
GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Match 3.7%; Local Similarity 49.3%; es 104; Conservative
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MEDIUM TYPE: CD/ROM ISO9660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/10/417,884A FILING DATE: 17-Apr-2003 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY: circular MOLECULE TYPE: DNA (genomic) HYPOTHETICAL: NO ANTI-SENSE: NO ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:
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LOCATION: (B) LOCATION 1...768
SEQUENCE DESCRIPTION: SEQ ID NO: 1266:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
                                                                                                                                            272
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FILING DATE: 30-Jun-1998
APPLICATION NUMBER: 60/085,598
FILING DATE: 14 May 1998
APPLICATION NUMBER: 60/051571
FILING DATE: July 2, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OPERATING SYSTEM: <Unknown>
SOFTWARE: ASCII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: nucleic acid
STRANDEDNESS: double
                                                                                                                                                                                                                                                                                                                                           TGGTTATTCAATACGGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGGCCTGATTTTCG 226
                                                                                                                                                                                                                                                                                                                                                                                    TCAAAGACACGTTACCGTTTTCGGTTATATCGGTATTGGACTTGCATTTGGTATCG
                                                                                                                                                                                                                                                                                                                                                                                                                          TAAAAACCTCCCTTGCTGCAGGTTTGGGCATGTACCCCGATTGGTATTGCGTTTTGGTCTCT 166
                                                                                                                                              TCGTTTTCTCGACCTTTCTAGTCAATTCCCG 302
                                                                                                                                                                                                                                                             CGGGCTCCACCGAAATGCTGGTCATCGCCCTCGTTGTGGGCGCAGCGCCCCTGGGCGCCA 286
                                                                                                                                                                                                                                                                                                       TTGGGAAAGCTGCCGGATTTCATCCACTAGTCGTCACGTTGATGTCCCTGCTGGTCTATG
                                                                                                                                                                                TCGCGCTCACCACATTGCTGGTGAACTTCCG 317
                                                                                                                                                                                                                         CTGGTTCTGCCCAATTTATCACAGTCAGCATGCTTGCTAGTCACAGCCCATTGCTTTCCA
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Pred. No. 0.0085;
0; Mismatches 107;
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RESULT 5 US-10-100-683-983/c

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US-10-767-701-10866
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US-10-767-701-10866
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APPLICANT: Cao, Yongwei
APPLICANT: Cao, Yongwei
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(5353)B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 5263
LENGTH: 619
TYPE: DNA
ORGANISM: Sorghum bicolor
                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement FILE REFERENCE: 38-21(5:535) BCURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 10866
LENGTH: 1034
TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local :
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                                                                                                                                                                                                                                Query Match
Best Local Similarity
Matches 88; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Kovalic, David
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE:
OTHER INFORMATION: Clone ID: SORBI-28MAY03-CLUS111974_1
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les 72; Conserv
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                                                                                                            301 TIGCTGGTGAACTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAA 360
                                                                                                                                                    151 ATGCCGGCGCCTACTACGGCGGAGGCCCTGCGCCGCCACCGGCGGCGCGCCCCT 210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         252 GTGGCGCTGCTCA
                                  361 AACCCCATTGCCCGTTTCTATTCGGTTTTCGCGCTTATCGACGAAGCCTACGCAGTC 417
                                                                          211 GTGGCGGTGGTGTCCCCGCAGTTCTGCGCGCGCTACGTGGTGCCCCTGACGGTGACCAAG
                                                                                                                                                                                         241 ATGCTGGTCATCGCCCTCGTTGTGGGGCGCAGCGCCCTGGGCGCCATCGCGCTCACCACA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCGGCCTTCACCTTGCTGGTGCTGTCGGGGCTGGCGGTGACGGGCACAGTGCTGGCGCTC 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATCGTGGCGACGCCGTTGCTGGTGATCTTCAGCCCGTGCTGGTGCCGGCGGCCATCACG
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  AAGGCCATCAGCCTCTCCGACGGCGACTTCACCGTCACCGACGCCAACGGCGCCGTC 327
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nilarity 49.7%;
Conservative
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Pred. No. 0.21;
0; Mismatches 61;
                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                    Score 34.6; DB 6; Pred. No. 0.52;
                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                      ; 68
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION NUMBER: US 60/040,162
PRIOR FILING DATE: 1997-03-07
PRIOR APPLICATION NUMBER: US 60/043,576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILE REFERENCE: PS900
CURRENT APPLICATION NUMBER: US/10/100,683
CURRENT FILING DATE: 2002-03-19
                                                                                                                                                                                                                                                                                                                                                                   FILE REFERENCE: PS900
CURRENT APPLICATION NUMBER: US/10/100,683
CURRENT FILING DATE: 2002-03-19
                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION NUMBER: US 60/040,162 PRIOR FILING DATE: 1997-03-07 PRIOR APPLICATION NUMBER: US 60/043,576
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NUMBER OF SEQ ID NOS: 13468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION NUMBER: US 60/043,580 PRIOR FILING DATE: 1997-04-11
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PRIOR APPLICATION NUMBER: US 60/047,601
                                                                                                                                                                                                                                                             PRIOR
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ORGANISM: Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                          FITLE OF INVENTION: Human Secreted Proteins
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ENGTH: 3173
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APPLICATION NUMBER: US 60/047,632
FILING DATE: 1997-05-23
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US 60/056,664 FILING DATE: 1997-08-22
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APPLICATION NUMBER: US 60/047,599
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                                                                                                                                                                                                                                        APPLICATION NUMBER: US 60/047,601
FILING DATE: 1997-05-23
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                                                                  APPLICATION NUMBER: US 60/056,664 FILING DATE: 1997-08-22
                                                                                                                                                                                                                                                                                       FILING DATE:
                                                                                                                            APPLICATION NUMBER: US 60/047,599
                                                                                                                                                                          APPLICATION NUMBER: US 60/043,580
                                                                                                                                                                                               APPLICATION NUMBER: US 60/056,845 FILING DATE: 1997-08-22
FILING DATE: 1997-04-11
APPLICATION NUMBER: US 60/047,632
                                                APPLICATION NUMBER: US 60/043,314
                                                                                                              FILING DATE:
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75.4%;
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Pred. No. 0.
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; OTHER INFORMATION: Clone ID: US-10-767-701-744
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SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 11511
LENGTH: 7071
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SEQ ID NO 7545
LENGTH: 666
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APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(5353)B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
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Best Local Similarity
                                                                                         NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 744
LENGTH: 561
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                                                                                                                                             APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21 (53535)B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
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ORGANISM: Sorghum bicolor
FEATURE:
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                                     TYPE: DNA
ORGANISM: Sorghum bicolor
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Pred. No. 0.47
0; Mismatches
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                     SORBI-28MAY03-CLUS124346_1
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Pred. No. 1.
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; ORGANISM: Homo sapiens
US-10-765-790-62
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US-60-548-091-5686
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TITLE OF INVENTION: Identification and Verification of Methylation Marker Sequences
EILE REFERENCE: 1657/2035
CURRENT APPLICATION NUMBER: US/10/765,790
CURRENT FILING DATE: 2004-01-27
PRIOR APPLICATION UNMBER: US 10/737,082
PRIOR FILING DATE: 2003-12-16
NUMBER OF SEQ ID NOS: 300
SOFTWARE: PatentIn version 3.2
SEQ ID NO 62
LENGTH: 23490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3.1%;
Best Local Similarity 49.7%;
Matches 86; Conservative
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: STROKE, METHODS OF DETECTION AND USES
FILE REFERENCE: CLOO1506
CURRENT APPLICATION NUMBER: US/60/548,091
CURRENT FILING DATE: 2004-02-27
NUMBER OF SEQ ID NOS: 24433
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 5686
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Best Local
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GENERAL INFORMATION:
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67; Conserv
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Gannon, Allison
Harvey, Jeanne
Lechner, John F.
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ilarity 54.9%;
Conservative
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Pred. No. 5.7;
0; Mismatches
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Pred. No. 0.
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US-09-804-291A-500
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Best Local
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SEQ ID NO 500
LENGTH: 930
                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION NUMBER: 60/188,914
PRIOR FILING DATE: 2000-03-13
PRIOR APPLICATION NUMBER: 60/192,033
PRIOR FILING DATE: 2000-03-24
PRIOR FILING DATE: 2000-04-14
PRIOR FILING DATE: 2000-04-14
PRIOR FILING DATE: 2000-04-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILE REFERENCE: 100337.54287US
CURRENT APPLICATION NUMBER: US/09/804,291A
CURRENT FILING DATE: 2001-03-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: 60/230,732
PRIOR FILING DATE: 2000-09-07
PRIOR APPLICATION NUMBER: 60/266,862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: ZOZULA, SERGEY
TITLE OF INVENTION: HUMAN OLFACTORY RECEPTORS AND GENES ENCODING SAME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 24477
TYPE: DNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR FILING DATE: 2000-05-26
PRIOR APPLICATION NUMBER: 60/
PRIOR FILING DATE: 2000-06-23
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PRIOR FILING DATE: 2000-04-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION NUMBER: 60/226,534 PRIOR FILING DATE: 2000-08-16
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Homo
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                                                                                                                                                                                                                                                             Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17603 TGCTGGTCATCGGCTCCCTGGTGGCTCGCTGGCTCCTGGGGGATTCAGGAGGGYGGYTTCT 17662
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                                                                                                     569 CAAGCCTCTTAGAACTGATGGTCATCCTCTTGGCCGTTGTGACTCTCATGGTTACTCTGG 628
                              629
                                                                  587
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1 Similarity 51.9%;
68; Conservative
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                                                                                                                                                                                                                  AAATAGCGTTTCACTCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGT 526
                                                                                                                                                                                ACAPTETGAATCACTATTACTGTGACTATGGGCCTCTCGTGGAGCTTGCCTGCTCAGACA 568
                                Tecree
                                                                    CTTTGG 592
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|larity 54.0%;
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Pred. No. 5
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Pred. No. 1.4;
O; Mismatches
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Gaps

Length 930; Indels

RESULT 12 US-10-021-698A-716

Sequence 716, Application US/10021698A GENERAL INFORMATION:

APPLICANT: KEITH, TIM

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APPLICANT: DEL MASTRO, RICHARD
APPLICANT: SIMON, JASON
APPLICANT: SIMON, JASON
APPLICANT: ALLEN, KRISTINA
APPLICANT: PANDIT, SUNIL
TITLE OF INVENTION: NUCLEOTIDE AND AMINO ACID SEQUENCES RELATING TO
TITLE OF INVENTION: RESPIRATORY DISEASES AND OBESITY
FILE REFERENCE: 2976-4044USI
CURRENT APPLICATION NUMBER: US/10/021,698A
CURRENT FILING DATE: 2001-10-22
PRIOR APPLICATION NUMBER: 60/211,749
PRIOR FILLNG DATE: 2000-06-14
NUMBER OF SEQ ID NOS: 6160
SOFTWARE: Patentin 2.1
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Best Local S
Matches 65
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GENERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: STROKE, METHODS OF DETECTION AND USES THEREOF
                                                                                                                                                                                                                       FILE REFERENCE: CL001506
CURRENT APPLICATION NUMBER: US/60/548,091
CURRENT FILING DATE: 2004-02-27
NUMBER OF SEO ID NOS: 24433
SOFTWARE: FastSEQ for Windows Version 4.0
SEO ID NO 19934
                                                               Best Loc
Matches
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SEQ ID NO 716
                                                                                                     Query Match
                                                                                                                                                              TYPE: DNA
ORGANISM: Homo sapiens
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242 TGCTGGTCATCGCCCTCGTTGTGGGCCCAGCGCCCCTGGGCGCCATCGCGCTCACCACAT 301
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65; Conserv
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69; Conserv
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ilarity 52.7%;
Conservative
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ilarity 55.1%;
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Pred. No. 28;
0; Mismatches
                                                           Score 33; DB 7; Length 201; Pred. No. 0.69; Indels
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; ORGANISM: Homo sapiens
US-60-548-091-19938
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                                                                                                                                                                                                                                                                  APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(53535)8
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 9054
LENGTH: 1028
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CURRENT APPLICATION NUMBER: US/60/548,091
CURRENT FILING DATE: 2004-02-27
NUMBER OF SEQ ID NOS: 24433
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 19938
LENGTH: 201
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GENERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: STROKE, METHODS OF DETECTION AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3.1%;
Best Local Similarity 52.7%;
Matches 69; Conservative
                                                                  Query Match 3.0%;
Best Local Similarity 54.0%;
Matches 67; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 9054, Application US/10767701 GENERAL INFORMATION:
                                                                                                                                                                             OTHER INFORMATION: Clone ID: SORBI-28MAY03-CLUS73927_1
                                                                                                                                                                                                ORGANISM: Sorghum bicolor FEATURE:
                                                                                                                                                                                                                                               TYPE: DNA
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609 AAAGCAGATCCCTTCTCTGCTGCTCGCAGGTTTGAGCTTTCACCATTGCTCTTTGTGGGTAAT 668
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                                                                ; Score 32.8; DI
; Pred. No. 2;
0; Mismatches
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                                                                    57;
                                                                                                             Length 1028;
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Job ti	Search	Дb	γŞ	g _b	Q	dd
Job time : 126.34 secs	Search completed: April 17, 2004, 20:12:57	866 GTCC 869	729 CTTC 732	806 GCCCACATGACGCCACTGCCGGTGTTGCTGCTGTGGCTGCTGGTGCCCATCGTGAA 865	669 TCCAGGTCAGGCCCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGTTGACCATCCGGTA 728	746 ATAGCCGTTGCCCTGCTTGCTGCTGCTGTCTTGCTGTCCCATTGCACCCGTAGTGGT 805

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Listing first 45 summaries
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Maximum DB
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Perfect score:
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                                                                                                                                                  Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                           Score
 40.8
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seq length: 2000000000
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Gapop 10.0 , Gapext 1.0
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Match Length DB
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1076
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 5.1
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Copyright (c) 1993 - 2004 Compugen Ltd.
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BX356664 BX356664
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RESULT 1
AQ936633
LOCUS
DEFINITION
HSJ41-905 Human NotI clones Homo sapiens genomic, genomic survey
sequence.
AQ936633
YERSION
AQ936633 1 GI:7213011
KEYWORDS
SOURCE
ORGANISM
Homo sapiens (human)
ORGANISM
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (Dases 1 to 473)
AUTHORS
Xie, L., Muravenko, O.V., Kozyrev, S., Petrenko, L., Skobeleva, N.,
Li, J., Protopopov, A., Kashuba, V., Ernberg, I., Winberg, G. and
TITLE
JOURNAL
MEDLINE
PUBMED
COMMENT
Center for Genomics Research
Karolinska Institute
1717 Stockholm, Sweden
Tel: +46-8-728-6372
Fax: +46-8-337983
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REFERENCE
AUTHORS
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Class:
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BX356664 BX356664 BX356664 BX356664 BX356664 BX356664 BX356664 BX356664 BX356664.1 GI:30378083
                                                                        47; Conser
                                                                                                                                                                                                                                                                                                                                                                   BP 191 91006 EVRY cedex - France
Email: segref@genoscope.cns.fr
Email: segref@genoscope.cns.fr
Library was constructed by Life Technologies, a division of
Invitrogen. Contact : Feng Liang Email : fliang@lifetech.com URL :
http://fulllength.invitrogen.com/ InvitroGen Corporation 1600
Faraday Avenue Genoscope sequence ID : CSODIO15CA02NP1.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Li,W.B., Gruber,C., Jessee,J. and Polayes,D. Full-length cDNA libraries and normalization Unpublished (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1. (bases 1 to 1201)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Contact: Genoscope
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 STBSTSSTTSTBTSCTTTBSSTTBYTBSSSYBSBSSBTTSSCSCTSSBSTTSSTBSMTSS
                                   GTTTTCCGGCCTGATTTTCGCGGGCTCCACCGAAATGCTGGTCATCGCCCTCGTTGTGGG
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NotI site.
                                                                                                                                                               /tissue_type="PIACENTA COT 25-NORMALIZED"
/clone_lib="Homo sapiens PIACENTA COT 25-NORMALIZED"
/note="Ist strand cDNA was primed with a NotI-oligo(dT)
primer. Five prime end enriched, double-strand cDNA was
digested with Not I and cloned into the Not I and EcoR V
sites of the pCMVSPORT 6 vector. Library was normalized."
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/mol_type="genomic DNA"
/db_xref="taxon:9606"
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                                                                                                                                                                                                                                                                                                              /organism="Homo sapiens"
/mol_type="mRNA"
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                                                                        4.2%; Score 45; DB 1
12.9%; Pred. No. 0.65;
ative 168; Mismatches
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Pred. No. 0.
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                                                                                                                                           17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Email: seqref@genoscope.cns.fr, Web: www.genoscope.cns.fr
Library was constructed by Life Technologies, a division of
Invitrogen. Contact: Feng Liang Email: fliang@lifetech.com |
http://fulllength.invitrogen.com/ Invitroden Corporation 1600
Faraday Avenue Genoscope sequence ID: CSODIO72CC03NP1.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Gatarrhini; Hominidae; Homo.

1 (bases 1 to 1201)

1 (W.B., Gruber, C., Jessee, J. and Polayes, D.

1 i, W.B., Gruber, C., Jessee, J. and Polayes, D.

1 rull-length cDNA libraries and normalization

Unpublished (2001)
Contact: Genoscope
Genoscope - Centre National de Sequencage

Be 191 91006 EVRY codex - France
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CACATTGCTGGTGAACTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGT 356
                                                               Conservative :
                                                                                                                                                                                                                                           /tissue_type="PIACENTA COT 25-NORMALIZED"
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primer. Five prime end enriched, double-strand cDNA was
digested with Not I and cloned into the Not I and EcoR V
sites of the pCMVSPORT 6 vector. Library was normalized."
                                                                                                                                                                                                                                                                                                                                                                /organism="Homo sapiens"
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                                                                                                                                                                                3.8%;
                                                                                                                                         8%; Score 40.8; DB 13;
k; Pred. No. 9.4;
191; Mismatches 362;
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                                                                                                                                                                                    Length 1201;
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RESULT 4
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                                                                                                                                                                                                                                                                                                BP 191 91006 EVRY cedex - France
Email: seqref@genoscope.cns.fr
Library was constructed by Life Technologies, a division of
Invitrogen. This sequence belongs to sequence cluster 2866.f
Contact : Feng Liang Email : fliang@lifetech.com URL :
http://fulllength.invitrogen.com/ InVitroGen Corporation 1600
Faraday Avenue Genoscope sequence ID : CSODC022EG06QF1.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 (bases 1 to 1201)
Li,W.B., Gruber,C., Jessee,J. and Polayes,D.
Full-length cDNA libraries and normalization
Unpublished (2001)
Contact: Genoscope
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BX376097
BX376097.1 GI:30434756
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sapiens
             /tissue_type="NEUROBLASTOMA COT 25-NORMALIZED" /clone_Tib="Homo sapiens NEUROBLASTOMA COT 25-NORMALIZED" /note="ist strand cDNA was primed with a NotI-oligo (dT) primer. Five prime end enriched, double-strand cDNA was digested with Not I and cloned into the Not I and EcoR V sites of the pCMVSPORT 6 vector. Library was normalized."
                                                                                                                                                                                                                                                     organism="Homo sapiens"
                                                                                                                                                                           /clone="CS0DC022YM12"
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                                                                                                                                                                                                      xref="taxon:9606"
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Homo sapiens
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                           TTGGCGCTGGCACCATCGTTTTTGTTGGACTGGTGAATCTTT
                                                                                                                     KKNWMCKAMMCACKKKBCCCYKCBKKKCCCKCCKACCMCCKKKMKKKKAMKKKKKCKKKKKKK
                                                                                                                                                                                  TTTTCBNKKAMKMBKKNKKMCDKAMCNCMAKAKDMKKKMKAKAMKKHANCKKK--CKKMC
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                                                                                                                                                                                                                                              KDKACKWCKKWCACKKACKKAWCKNMNKDMCTWTCTWTTTTTCTTTTTTTCCCCTHTTT
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                                                                                      TTGCCGTTGCGATTACAGTGGTGGCGCATCTTCTTGGCGGTCGACGCACCTTGTTGAGCG
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KKBKBKKDMCKKKKKCAKKKRNKKKKKMKKKKMKKKCMBKKKKKKKKKKKKAMAMKWMANAK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3.7%;
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Pred. No. 14
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                                                                                                                                                              AUTHORS
65, rue de Saint-Brieuc, R. Tel: +33 (0) 2.23.48.54.63 Fax: +33 (0) 2.23.48.54.70
                                                                                                       1 (bases 1 to 692)
Herault, F., Le Meuth-Metzinger, V., Desert, Klopp, C. and Douaire, M.
Construction and primary characterization multi-tissue CDNA libraries
                                                                                                                                                                                                                                                      Gallus gallus (chicken)
Gallus gallus
                                                                                                                                                                                                                                                                                                                           BX540413 692 bp mRNA linear ES EX540413 AGENAE Gallus gallus multi-tissues library (g gallus cDNA clone gcab0001b.d.10 5prim, mRNA sequence. EX540413
                                                                                                                                                                                                                  Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae;
                                                                                         Unpublished (2003)
                                                                                                                                                                                                  Archosauria; Aves; Neognathae; Phasianinae; Gallus.
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                                                                        Contact: Douaire M
                                                     UMR INRA-ENSAR Genetique
                                        RENNES
                                                       Animale
                                      cedex,
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                                        35042,
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                                                                                                                               normalized
                                                                                                                                                                                                                                                                                                                                                                     Gallus
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Email: Madeleine.Douaire@roazhon.inra.fr
Sequence cleaned of vector, adaptator and re
at sigenasupport@jouy.inra.fr to obtain the

repetitions. Contact us he chromatogram of this

FEATURES

sequence.

Plate: 0001 row:
Seq primer: M13R.

row: d

column:

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AJ397466 dkfz426 Gallus gallus c
AJ397466 1 GI:7130433
EST.
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Cellular Immunology
Reinrich-Pette-Institute
Heinrich-Pette-Institute
Martinistr. 52, 20251 Hamburg, Germany
Email: URL: http://genetics.hpi.uni-hamburg.de/dt40est.html.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                      Abdrakhmanov,I., Lodygin,D., Geroth,P., Arakawa,H., Law,A., Plachy,J., Korn,B. and Buerstedde,J.M.
A large database of chicken bursal ESTs as a resource for the analysis of vertebrate gene function Genome Res. 10 (12), 2062-2069 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae; Gallus.
1. (bases 1 to 718)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gallus gallus (chicken)
Gallus gallus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTTTGCTAAGGTCACCTTCTTGCTGCAGCCTCTGCAG 225
                                                      /tissue_type="Bursa of Fabricius"
/cell_type="bursal lymphocyte"
/dev_stage="2-3 weeks old"
/clone_lib="dkfz426"
                                                                                                                                                                                                  /organism="Gallus gallus"
/mol_type="mRNA"
                                                                                                                                                               db_xref="taxon:9031"
                                                                                                                                            clone="217r1"
      Score 39.4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   o mRNA linear EST 25-JAN-
cDNA clone 217rl, mRNA sequence.
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    Length 718;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      705 CTTGGGTCTGTTGACCATCCGGTACTTCTTCTTGGGAAAGGCTGCTAAATGACAACTGAT
                                                                                                       595
                                                                                                                                      551 TCGAGTTCGCCCTTTGCTCTCTTTGTCACGC 583
                                                                                                                                                                   535 GTTTCGCGGCGGCCACCCGGATCCAGCTCGGCTTCGCGAGCGCCTCTAAAGCTTCAGGTC
                                                                                                                                                                                                        491 TATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAAATTAAGGGCC
                                                                                                                                                                                                                                                                       431 CCGCAGGCTGGTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCACTCCTACTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; PACCAD clade; Panicoideae; Andropogoneae; Zea.

1 (bases 1 to 743)

Whitelaw, C.A., Quackenbush, J., Van Aken, S., Utterback, T., Resnick, A., Fraser, C.M., Budiman, M.A., Bedell, J.A., Rohlfing, T., Cliek, R.W., Nunberg, A., Robbins, D. and Lakey, N.

Consortium for Maize Genomics
Unpublished (2002)
Other GSSs: OCCUMX55TV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Zea mays
Zea mays
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CC684922 743 bp DNA linear GSS 19-JU OGUAX55TH ZM_0.7_1.5_KB Zea mays genomic clone ZMMBMa0397J14,
                                                                                                                                                                                                                                                                                                            82;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  genomic survey sequence. CC684922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9712 Medical Center Drive,
Tel: 301-838-5843
Fax: 301-838-0208
Email: whitelaw@tigr.org
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Contact: Cathy Whitelaw
BU448643 1756 bp mRNA linear EST 29-NOV-2002 603211326F1 CSEQRBN13 Gallus gallus cDNA clone ChEST191c7 5', mRNA
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ilarity 53.6%;
Conservative
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/clone="zxMxBMa0397J14"
/clone_lib="ZM_0.7_1.5_KB"
/note="Vector: pBCSK:, Site_1: HincII; 0.7-1.5
methylation filtered genomic DNA library"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Zea mays"
/mol_type="genomic DNA"
/strain="B73"
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rrcrccrerarrcrccrrerrercecaerarerecae 801

Best Loc Matches

61;

Conservative

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705

/notes"Vector: pT7T3D-pac; Clone distribution : AGENAE Resource centre. François PIUMI, François.Piumi.inra.fr, INRA, CEA Radiobiologie et Etude du genome (LREG), Domaine de Vilvert, 78352, Jouy-en-Josas cedex, FRANCE"

/tissue_type="adipose tissue, granulosa, multi-tissues, oviduct, small folicule, utero-vaginal gland" /dev_stage="adult" /lab_host="DH10B"

/mol_type="mRNA" /db_xref="taxon:9031" /clone="gcab0001b.d.10" organism="Gallus gallus" location/Qualifiers

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262

Local

Similarity

3.7%;

Score 39.4; D Pred. No. 17; 0; Mismatches

DB 13;

Length

692;

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PUBMED
COMMENT
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AUTHORS
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V Drosophila melanogaster genome s
BACR20K04 of RPCI-98 library fro
fly), genomic survey sequence.
ALD54013
ALD04013.1 GI:4935590
GSS.
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BU448643
BU448643.1
EST.
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Boardman, P.E., Sanz-Ezquerro, J., Overton, I.!
Fong, W.T., Tickle, C., Brown, W.R.A., Wilson, S.
A Comprehensive Collection of Chicken cDNAs
Curr. Biol. 12 (22), 1965-1969 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae; Gallis.
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Tel: 01612008930
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gallus gallus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note="Togram; vector: pBluescript II KS(+); Site_1: /note="Togram: ovary; Vector: pBluescript II KS(+); Site_1: EcoRI; Site_2: Not1; This normalized library was constructed_from 1 million independent clones. cDNA synthesis was initiated using an oligo(dT) primer, using methylated C in the first strand synthesis reaction. Following this first strand reaction, double-stranded cDNA was blunted, ligated to NotI adapters, digested with EcoRI, size-selected, and cloned into the NotI and EcoRI compatible sites of a custom modified MCS of the pBluescript (KS+) vector. The library was normalized in 2 rounds using conditions adapted from Soares et al., PNAS conditions adapted from Soares et al., PNAS conditions adapted from Soares et al.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           (1994) 91: 9228-9232 and Bonaldo et al., Genome Research (1996): 791, except that a significantly longer reannealing hybridization was used."
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /dev_stage="adult"
/lab_host="DH10B"
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/mol_type="mRNA"
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Pred. No. 18;
0; Mismatches
                                                                                                                 787 bp
                                                                              from
                                                                          p DNA linear GSS 03-JUN-1999
survey sequence T7 end of BAC #
rom Drosophila melanogaster (fruit
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A., Wilson, S.A.
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                                                                        Homo sapiens (human)
Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vert.
Mammalia; Eutheria; Primates; Catarrhini; Ho
1 (bases 1 to 885)
Li,W.B., Gruber (C., Jessee, J. and Polayes, D.
Full-length cDNA libraries and normalization
Unpublished (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         76;
                          Genoscope - Centre National de Sequencage
BP 191 91006 EVRY cedex - France
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                                                              Contact: Genoscope
                                                                                                                                                                                                                                                       BX425603.1 GI:30770486
        Email: seqref@genoscope.cns.fr,
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SOURCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      672 AGGTCAGGCCCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGTTGA 718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      612 GCAGATCCCTTCTCTGCTGCTCGCAGGTTTGAGCTTCACCATTGCTCTTGTGGTAATTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                          214 TAATTTCGCCATATGGTTATATCGGATTTTTTTTATTGGTCCGCTGA 168
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Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
885 bp mRNA
BX425603 Homo sapiens NEUROBLASTOMA Homo
CLOBB022ZA07 3-PRIME, mRNA sequence
EX425603
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BP 191 91006 EVRY cedex - FRANCE (E-mail : segref@genoscope.cns.fi

    Web : www.genoscope.cns.fr)

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/clone="BACR20K04"
/clone_lib="RPCI-98"
/note="end : T7"
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|mol_type="genomic DNA"
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Pred. No. 18;
5; Mismatches
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Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.

Web : www.genoscope.cns

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REFERENCE
AUTHORS
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JOURNAL
COMMENT
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             NIH-MGC http://mgc.nci.nih.gov/
National Institutes of Health,
Unpublished (1999)
                                                                                                                                                       5', mRNA sequence.
BF341287
                                                                                                                                                                      859 bp
602013222F1 NCI_CGAP_Brn64 Homo
5', mRNA secritoria
 Contact:
                                                       Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
1 (bases 1 to 859)
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                                                                                                               Homo sapiens (human)
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llarity 1.5%;
Conservative 14
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/clone Tib="Homo sapiens NEUROBLASTOMA"
/clone Tib="Homo sapiens NEUROBLASTOMA"
/note="Vector: pcfwySporT 6; 1st strand cDNA was primed with a NotI-oligo(dT) primer. Five prime end enriched, double-strand cDNA was digested with Not I and cloned the Not I and Ecory sites of the pcMvSporT 6 vector.
Library was not normalized."
Robert Strausberg,
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/db_xref="taxon:9606"
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/mol_type="mRNA"
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147; Mismatches 323;
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Pred. No. 20;
                                                                     Craniata; Vertebrata;
Catarrhini; Hominidae;
                              Mammalian
                                                                                                                                                                                 mRNA
sapiens
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780 CTTGTTGTCGCAGTATGTGCAGTCATTACTTTTGCGCTCCGGGCGGTTCCGTTCT
- Web: www.genoscope.cns.fr)

Determination of this BAC-end sequence was carried out as part of collaboration with the Berkeley Drosophila Genome Project (BDGP). The BDGP is constructing a physical map of the Drosophila melanogaster genome using these BACs. For further information please see http://www.fruitfy.org The BDGP Drosophila melanogaster BAC library was prepared by Kazutoyo Oscegawa and haron Mammoser in Pieter de Jong's laboratory in the Department o Cancer Genetics at the Roswell Park Cancer Institute in Buffalo, NY. The library is named RPCI-98 and was constructed by partial ECORI digestion of Drosophila DNA provided by the BDGP from the isogenic strain y2; cn bw sp, the same strain used for the BDGP's
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90; Conserv
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Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
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Drosophila melanogaster genome survey sequence TET3 end of BAC #
BACR19D16 of RPCI-98 library from Drosophila melanogaster (fruit
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Tissue Procurement: David N. Louis, M.D.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAM9410 row: k column: 05
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Direct Submission
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nilarity 51.4%;
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/lab_host="PH10B (TI phage-resistant)"
/clone lib="NCI (GAP_Brn64"
/note="Organ: brain; Vector: pCMV-SPORT6; Site_1: Not
/note="Organ: brain; Vector: pCMV-SPORT6; Site_1: Not
Site_2: Sall; Cloned unidirectionally. Primer: Oligo
Average insert size_1.57 kb. Constructed by Life
Technologies. Note: this is a NCI_CGAP Library."
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/db_xref="taxon:9606"
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BX361080
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                                                                                                                                                                          Email: seqref@genoscope.cns.fr, Web: www.genoscope.cns.fr
Library was constructed by Life Technologies, a division of
Invitrogen. Contact: Feng Liang Email: fliang@lifetech.com |
http://fulllength.invitrogen.com/ InVitroden Corporation 1600
Faraday Avenue Genoscope sequence ID: CSODI079DG08NP1.
Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                         Li,W.B., Gruber,C., Jessee,
Full-length cDNA libraries
Unpublished (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                Bukaryota; Metazoa; Chordata; Mammalia; Eutheria; Primates; 1 (bases 1 to 1201)
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BP 191 91006 EVRY cedex - France
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|mol type="genomic DNA"
|db xref="taxon:7227"
|clone="BACR19D16"
|clone lib="RPCI-98"
|note="end : TET3"
/tissue_type="PLACENTA COT 25-NORMALIZED"
/clone_Tib="Homo sapiens PLACENTA COT 25-NORMALIZED"
/note="Jst strand cDNA was primed with a NotI-oligo(dT)
primer. Five prime end enriched, double-strand cDNA was
                                                                                                /mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                 /organism="Homo sapiens"
/mol_type="mRNA"
                                                                                /clone="CS0DI079YN16"
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14.2%; Pred. No.
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OSJNEc13F02.f OSJNEC Oryza sativa (japonica
clone OSJNEc13F02 5', mRNA sequence.
CB657749
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Unpublished (2003)
                                                                                                                                         Seq primer: gta aaa cga cgg cca gtg
                                                                                                                                                                        FORWARD: gta aaa cga cgg cca gtg
BACKWARD: gga aac agc tat gac cat
Plate: 13 row: F column: 02
                                                                                                                                                                                                                                                        Tel: 520 626 3967
Fax: 520 621 9288
Email: http://genome.arizona.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Oryza sativa (japonica cultivar-group)
Oryza sativa (japonica cultivar-group)
Oryza sativa (japonica cultivar-group)
Eukaryota, Viridiplantae, Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
Shrhartoideae; Oryzaae; Oryza.
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EST.
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Biological Sciences W
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/db_xref="taxon:39947"
/clone="OSUNEc13F02"
/tissue_type="Leaf"
                                                        /organism="Oryza sativa (japonica /mol type="mRNA" /cultivar="Nipponbare"
                                                                                                                          . . 835
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Pred. No. 38;
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                                                                                                   cultivar-group)"
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RESULT 15
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AUTHORS
TITLE
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Best Local Similarity
Query Match 3.5%; Score 37.8; Dest Local Similarity 34.0%; Pred. No. 57; Matches 54; Conservative 41; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                           Determination of this BAC-end sequence was carried out as part of a collaboration with the Berkeley Drosophila Genome Project (BDGP). The BDGP is constructing a physical map of the Drosophila melanogaster genome using these BACs. For further information please see http://www.fruitfly.org The BDGP Drosophila melanogaster BAC library was prepared by Kazutoyo Oscegawa and Maron Mammoser in Pieter de Jong's laboratory in the Department of Cancer Genetics at the Roswell Park Cancer Institute in Buffalo, NY. The library is named RPCI-98 and was constructed by partial ESORI digestion of Drosophila DNA provided by the BDGP from the isogenic strain y2; on bw sp, the same strain used for the BDGP's P1 and EST libraries. A more detailed description of the library and how to order individual BAC clones, the entire library, or filters for hybridization from the BACPAC Resource Center can be Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              199
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Drosophila melanogaster genome survey sequence TET3 end of EACR12G04 of RPCI-98 library from Drosophila melanogaster fly), genomic survey sequence.
ALIO60428
ALIO60428.1 GI:4943359
GSS.
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Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Direct Submission
Submitted (02-JUN-1999) Genoscope - Centre National de Sequencage :
BP 191 91006 EVRY cedex - FRANCE (E-mail : seqref@genoscope.cns.fr
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/note="Vector: pBluescript II KS +;
XhoI; 6 hrs after innoculation with
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/lab_host="DH10B"
                                                                                                                          /organism="Drosophila melanogaster"
/mol type="genomic DNA"
/db xref="taxon:7227"
/clone="BACR12G04"
/clone lib="RPCI-98"
/note="end : TET3"
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survey sequence TET3 end of BAC #
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Search completed: April 17, 2004, 20:01:41 Job time: 3485.32 secs

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Copyright (c) 1993 - 2004 Compugen Ltd.
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Pred. No. is the number of results predicted by chance to have a

score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

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	P002999 Mesorhi	016846 Salmonel	627279 Salmonel	016925 Chromoba	P002997 Mesorhiz	X640426 Bordetel	640441 Bordetel	008888 Salmonel	646084 Raistoni	6494 Sequence I	414156 Yersinia	13695 Yersin	410307 Erwinia	655393 Sequence	017209 Geobacte	016783 Pseudom	013585 Metha	25448 Homo sap	011050 M	R386287 Sequence	571660 Wolinell	13995 Novel n	X137077 Sequence	05283 Coryne	X127153 Sequence	65609 Novel	23492 Sequence	248361 Coryne	05224 Coryneba	7085 Seque	37083 Sequenc	120085 Sequence	P005274 Coryneb	F454053 Corvneba	4994 Nucleoti	14001 Nucleoti	7709 Sequenc	91956 Sequenc	391953 Sequenc	D162490 Novel po	014992	37710 Sequenc	20373	R391954 Sequenc	Description		

ALIGNMENTS

JOURNAL	TITLE	AUTHORS	REFERENCE		ORGANISM	SOURCE	KEYWORDS	VERSION	ACCESSION	DEFINITION	Locus	AR391954	RESULT 1
acids, process for the isolation thereof and use thereof Patent: US 6613545-A 2 02-SEP-2003;	Nucleotide sequences coding for the export of branched chain amino	Kennerknecht, N., Sahm, H., Eggeling, L. and Pieiterle, W.	1 (bases 1 to 753)	Unclassified.	Unknown.	Unknown.	•	AR391954.1 GI:40115725	AR391954	Sequence 2 from patent US 6613545.	AR391954 753 bp DNA linear PAT 18-DEC-2003		

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RESULT 2
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Yokoi,H., Tateishi,N., Senoh,A., Ikeda,M. and Ozaki,A.
Novel polymucleotides
Patent: EP 1108790-A 289 20-JUN-2001;
KYOWA HAKKO KOGYO CO., LTD. (JP)
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53; Conservative 0; Mismatches 0;
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/mol_type="unassigned DNA"
/db_xref="taxon:1718"
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Corynebacterineae, Corynebacteriaceae, Corynebacterium.
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121 GCTGCAGGTTTGGGCAGTCACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAALAC 180	AAGGTCTAAAAACCTCCCTT 12	CCCTT 12	1 GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG 60	Match 100.0%; Score 753; DB 6; Length 753; ocal Similarity 100.0%; Pred. No. 9.8e-185; s 753; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	PC (C12N15/00,C12R1:15) CC brnF FH Key Location/Qualifiers FT CDS (1)(753). Location/Qualifiers 1753 1753 1759 /organism="unidentified" /mol_type="genomic DNA" /db_xref="taxon:32644"	DEGUSSA HUELS AG, FORSCHINGSZENTRUM JUELICH GMBH OS COTYNEDACTETIUM GILTAMICUM ATCC14752 PN JP 2001169788-A/2 PN JP 2001169788-A/2 PP 24-CCT-2000 JP 2000324315 PF 24-CCT-1999 DE 19951708.8 PI NICOLE KENNERUKUNEHITO, HERMANN SAHM, LOTHAR EGGERING, WALTER PI PFEFFERLE PC C12N15/09, C07K14/34, C12N1/21, C12P13/06, C12P13/06, C12P13/08/ PC (C12N15/09, C07K14/34, C12N1/21, C12P13/06, C12	JP 2001169788-A/2. unidentified unidentified unclassified. unclassified. 1 (bases 1 to 753) 1 (bases 1 to 753) 1 (kennerukunehito,N., Sahm,H., Eggering,L. and Pfefferle,W. Kennerukunehito encoding the discharge of branched amino acid, method of isolating the same and utilization thereof Patent: JP 2001169788-A 2 26-JUN-2001;	BD014992 Nucleotide sequen method of isolati BD014992 ED014997	721 ATCCGGTACTTCTTCTTGGGAAAGGCTGCTAAA 753 	661 GTGGTAATTCCAGGTCAGGCCCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGTTGACC 720	601 CGAACGAAAAAGCAGATCCCTTCTCTGCTGCTCGCAGGTTTGAGCTTCACCATTGCTCTT 660	541 ATTAAGGGCCTCGAGTTCGCCCTTTGCTCTCTCTTGTCACGCTGACTTTGGATTCCTGC 600	481 TCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAA 540

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RS Nakagawa, S., Mizoguchi, H., Ando, S., Hayashi, M., Ochiai, K., Yokoi, H., Tateishi, N., Senoo, A., Ikeda, M. and Ozaki, A.

RS Novel polymucleotide

AL Patent: JP 2002191370-A 289 09-JUL-2002;

RYOWA HAKKO KOGYO CO LTD

OS COTYNEDBACTETIUM Glutamicum

PN JP 2002191370-A/289

PD 09-JUL-2002

PP 15-DEC-2000 JP 2000405096

PI 15-DEC-2000 JP 2000405096

PI 15-DEC-2000 JP 2000405096

PI SATOSHI NAKAGAWA, HIROSHI MIZOGUCHI, SEIKO ANDO, MIKIO HAYASHI, PI HARUHIKO YOKOI, NAOKO TATEISHI, AKIHIRO SENOO, MASATO IKEDA, AKIO PI OZAKI

PC C12N1/15, PC C12N15/09, C12N15/09, C07K14/34, C07K16/12, C07K16/40, C12M1/00, PC C12N1/15, C12N1/21, C12N1/21, C12N1/00, C12N1/00, C12N1/00, C12N1/21, C12N1/21, C12N1/00, C12N1/21, C12
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/db_xref="taxon:32644"
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Kennerknecht, N., Sahm, H., Eggeling, L. and Pfefferle, W.

Nucleotide sequences coding for the export of branched chain
acids, process for the isolation thereof and use thereof
patent: US 6613545-A 1 02-SEP-2003;

Location/Qualifiers
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Nucleotide sequences coding for the export of branched chain
acids, process for the isolation thereof and use thereof
Patent: US 6613545-A 6 02-SEP-2003;
Cocation,CQualifiers
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                                                                                                                                                                                 AACCCCATTGCCCGTTTCTATTCGGTTTTCGCGCTTATCGACGAAGCCTACGCAGTCACT
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                                                          TCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAA
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Degussa AG (DE) ; FORSCHUNGSZENTRUM JUELICH GMEH (DE)
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Corynebacterium glutamicum
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Bacteria, Actinobacteria, Actinobacteridae, Actinomycetales,
Corynebacterineae, Corynebacteriaceae, Corynebacterium.
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|noTe="ATCC14752"
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100.0%; Pred. No. 1e-184;
tive 0; Mismatches 0;
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Sequence 6 from Patent EP1096010.
AXI37714
AXI37714.1 GI:14273893
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Degussa AG (DE) ; FORSCHUNGSZENTRUM JUELICH GMBH (DE) LOCALION/Qualifiers
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Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
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/codon_start=1
/transI_table=11
/protein_id="CAC39928.1"
/bb_xref="REMTREMBL:CAC39928"
/translation="MITDFSCILLVVAVCAVITFALRAVPFLILKPLRESQFVGKMAM
WMPAGILAILTASTFRSNAIDLKTLTFGLIAVAITVVAHLLGGRRTLLSVGAGTIVFV
GLVNLF"
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Pred. No. 1e-184;
; Mismatches 0
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Kennerukunehito,N., Sahm,H., Eggering,L. and Pfefferle,W.

Nucleotide sequence encoding the discharge of branched am:
method of isolating the same and utilization thereof

Patent: JP 2001169788-A 1 26-JUN-2001;

DEGUSSA HUELS AG,FORSCHUNGSZENTRUM JUELICH GMBH

OS COTYNEBACTERING STURNESSENTRUM JUELICH GMBH

OS COTYNEBACTERING STURNESSENTRUM ATCC14752

PN JP 2001169788-A/1

PD 26-JUN-2001

PF 24-OCT-2000 JP 2000324315

PR 27-OCT-1999 DE 19951708.8

PI NICOLE KENNERUKUNEHITO,HERMANN SAHM,LOTHAR EGGERING,
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BD014991.1 GI:22555798
JP 2001169788-A/1.
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Similarity 100.0%; F
53; Conservative 0;
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                                                        GCGGCCAGGCCGCAGGCTGGTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCAC
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   TCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAA
                                    GCGGCCAGGCCCGCAGGCTGGTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCAC
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NICOLE KENNERUKUNEHITO, HERMANN SAHM, LOTHAR EGGERING, WALTER
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(101)..(953)
(853)..(1176).
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/mol_type="genomic DNA"
/db_xref="taxon:32644"
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Pred. No. le-184;
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                                                                                                                                                                                                                                                                                                                                                                                                                 source
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DEGUSSA HUELS AG,FORSCHUNGSZENTRUM JUELICH GMBH

OS COTYNebacterium glutamicum ATCC13032

PN JP 2001169788-A/4

PD 26-JUN-2001

PP 24-OCT-2000 JP 2000324315

PR 27-OCT-1999 DE 19951708.8

PI NICOLE KENNERUKUNEHITO,HERMANN SAHM,LOTHAR EGGERING,WALTER PI PFEFERLE

PC C12N15/09,C07K14/34,C12N1/21,C12P13/06,C12P13/06,C12R1:15), CC C12N15/09,C12R1:15)

PC (C12N15/00,C12R1:15)

CC brnE

FH Key

Location/Qualifiers

FT gene (101). (853)

FT gene (105)...(1176).
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JP 2001169788-A/4.
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/db_xref="taxon:32644"
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Corynebacterium glutamicu regulator (lrp) genes, cc AF454053
AF454053,1 GI:21311379
                                                                                                                                                                                                                                            Eggeling,L.

Export of L-isoleucine from Corynebacterium glutamicum:

Export of L-isoleucine from Corynebacterium glutamicum:

two-gene-encoded member of a new translocator family

J. Bacteriol. 184 (14), 3947-3956 (2002)
                                                                                                                                                                                                                                                                                                                                             Corynebacterineae; Corynebacteriaceae; Corynebacterium.
1 (bases 1 to 2105)
Kennerknecht, N., Sahm, H., Yen, M.R., Patek, M., Saier Jr, M.H.
                                                                                                                                                                                                                                                                                                                                                                                      Corynebacterium glutamicum
Corynebacterium glutamicum
Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
                                                                                                                                         2 (bases 1 to 2105)
Kennerknecht,N., Eggeling,L.
Direct Submission
                                                                                                                      Submitted (07-NOV-2001) IBT-1,
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                                             TIGCTGGTGAACTICCGCCACGTATTCTATGCGTTTTCATTCCGCTGCATGTGGTCAAA 360
                                                                                                                                                                         ATGCTGGTCATCGCCCTCGTTGTGGGCGCAGCGCCCTTGGGCGCCCATCGCGCTCACCACA
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AEGIILGYSADIHPAVMNRGFEVTVDVTLSNFDRSTVDNFESSVAQHDEVLELHRLFG
SPDYFVRIGVADLEAYEQFLSSHIQTVPGIAKISSRFAMKVVKPARPQV"
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/db_xref="G1:21311381"
/tdb_xref="G1:21311381"
/tdb_x
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/db_xxef="GI:21311380"
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/mmpagilailtastfrsnaidlktltfgliavaitvvahllggrrtllsvgagtivfv
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complement(385..711)
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/trans1_table=11
/product="Lrp-like regulator"
/protein_id="AAM46687.1"
/db_xref="GI:21311382"
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/product="BrnE"
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Corynebacterium glutamicum ATCC 13032
Bacteria, Actinobacteria, Actinobacteridae, Actinomycetales,
Corynebacterineae, Corynebacteriaceae, Corynebacterium.
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Corynebacterium glutamicum ATCC 13032 DNA,
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/mol type="genomic DNA"
/strain="ATCC 13032"
/db xref="taxon:196627"
/note="ATCC 13032"
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/codon_start=1
/transI_table=11
/product="ATPase involved
/protein_id="BAB97394.1"
                                                                                                                                                                      /gene="Cgl0001"
/note="PF00308:Bacterial dnaA protein
IIGR00362:DnaA: chromosomal replication
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genome, section
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Hakko Kogyo

initiation"

Kogyo Co., Machida,

ATCC 13032

_xref="GI:21322765"

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3585. .4769

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PF01781:Toprim domain
PF02518:Histidine kinase-, DNA gyrase B-, phytochrome-like
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RESULT 14
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Best Local Simi
Matches 753;
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349980 bp
Sequence 1 from Patent EP1108790.
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AX120085.1 GI:14036800
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Patent: EP 1108790-A 1 20-JUN-2001;
KYOWA HAKKO KOGYO CO., LTD. (JP)
Location/Qualifiers
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Corynebacterium glutamicum
Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
Corynebacterineae; Corynebacteriaceae; Corynebacterium.
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/mol_type="genomic DNA"
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1 GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG <u>,</u> Score 753; DB 6; 1 Pred. No. 1.2e-184; ; Mismatches 0; 0 276888 60 0

276889 GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAAACCTCCCTT GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAAACCTCCCTT GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG GGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGGCCTGATTTTCGCGGGGCTCCACCGAA GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTTGGTCTCTTGGTTATTCAATAC GGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGCCTGATTTTCGCGGGCTCCACCGAA 240 180 276948 120 277068 277008

ATGCTGGTCATCGCCCTCGTTGTGGGCGCAGCGCCCTGGGCGCCATCGCGCTCACCACA ATGCTGGTCATCGCCCTCGTTGTGGGCGCAGCGCCCTGGGGCGCCATCGCGCTCACCACA 277128

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Sequence 7 from Patent EP1090993.
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Degussa AG (DE)
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Corynebacterium glutamicum
Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
Corynebacterineae; Corynebacteriaceae; Corynebacterium.
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Sequence:

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AAF61083 AAI99682_33

Continuation

Human pro
S. atrool
Rice gene
N. gonorr
DNA encod
P. putida
P. putida
P. putida

ALIGNMENTS

ВÞ

brnE; branched-chain amino acid; isoleucine; valine; medicine;

ACA42205 AAV58489 AAV61146 AAA06252 ABS71157 AAH93368 AAS63460

Aah93368 Aas63460 Aah02433

Aas10011 Ab194832

Human pro Human N1-Prostate

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This invention describes a novel isolated polynucleotide (I) containing at least one sequence that (i) is 70% identical with a sequence that encodes at least one of 251 amino acid (aa) (3) or 108 aa (5) polypeptides; (ii) encodes a polypeptide at least 70% identical with (3) or (5); (iii) is the complement of (i) or (ii), or (iv) contains at least 50 consecutive bases from (i)-(iii). The invention also describes (a) protein derived from sequences of 753 bp (2) or 324 bp (4); (b) coryneform microorganisms, especially Corynebacterium, transformed with one or more (I), where these are replicative DNA; (c) production of
                                                                                                                                                                                                                                                                                                                                 WPI; 200
P-PSDB;
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                                                                                                                                                                                                                                                                New export genes from coryneform bacteria, useful for increasing fermentative production of branched-chain amino acids.
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07-APR-2000;
03-AUG-2000;
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Tateishi
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                  GGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGGCCTGATTTTCGCGGGCTCCACCGAA
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2000JP-00280988.
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                         Kennerknecht N,
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                                                                      (DEGS ) DEGUSSA AG.
(KERJ ) FORSCHUNGSZENTRUM JUELICH GMBH.
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WPI; 2001-391595/42. P-PSDB; AAB86247, AAB86248 New export genes from coryneform bacteria, useful for increasing fermentative production of branched-chain amino acids.

23pp; German

method of the invention

Sequence 1271 BP; 265 A; 328 C; 318 G; 360 T; 0 U; 0 Other;

Length 1271;

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Query Match Best Local (

Similarity

밁 S 밁 Ś 皮 5 멂 S 밁 5 맑 S 문 Ś 밁 S 밁 S Matches 341 221 521 461 361 401 301 241 281 181 121 161 101 541 481 421 61 1 GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAACCTCCCTT AACCCCATTGCCCGTTTCTATTCGGTTTTTCGCGCTTATCGACGAAGCCTACGCAGTCACT TTGCTGGTGAACTTCCGCCACGTATTCTATGCGTTTTCATTCCCGGCTGCATGTGGGTCAAA ATGCTGGTCATCGCCCTCGTTGTGGGGCGCAGCGCCCTGGGGCGCCATCGCGCTCACCACA GGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGCCTGATTTTCGCGGGGCTCCACCGAA GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAACCTCCCTT GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG ATTAAGGGCCTCGAGTTCGCCCTTTGGTCTCTCTTTTGTCACGCTGACTTTGGAATTCCTGC GCGGCCAGGCCCGCAGGCTGGCGTCGCCGACTTATCTCAATGCAAATAGCGTTTCAC GCGGCCAGGCCGGCAGGCTGGTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCAC AACCCCATTGCCCGTTTCTATTCGGTTTTCGCGCTTATCGACGAAGCCTACGCAGTCACT TIGCTGGTGAACTICCGCCACGTATICTATGCGTTTTCATTCCCGCTGCATGTGGTCAAA ATGCTGGTCATCGCCTCGTTGTGGGCGCAGCGCCCTGGGCGCCATCGCGCTCACCACA GGCTACGAATGGTGGGCAGCCCACTGTTTTCCGGGCCTGATTTTCGCGGGCTCCACCGAA GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC TCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAA rcciacioseraricos cos circacos sas resconarcos as a serios controles and 100.0%; Score 753; DB 4; 1 ilarity 100.0%; Pred. No. 2.5e-223; Conservative 0; Mismatches 0; Indels 0 340 240 160 600 540 580 480 520 420 460 360 400 300 280 180 220 120 9

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This invention describes a novel isolated polynucleotide (I) containing at least one sequence that (i) is 70% identical with a sequence that encodes at least one of 251 amino acid (aa) (3) or 108 aa (5) polypeptides; (ii) encodes a polypeptide at least 70% identical with (3) or (5); (iii) is the complement of (i) or (ii), or (iv) contains at least 15 consecutive bases from (i) - (iii) The invention also describes (a) protein derived from sequences of 753 bp (2) or 324 bp (4); (b) coryneform microorganisms, especially Corynebacterium, transformed with one or more (I), where these are replicative DNA; (c) production of branched-chain L-aa by fermentation of coryneform bacteria in which the specially overexpressed; and (d) method for isolating the brnE and/or brnF genes (I) is used for transformation of coryneform bacteria being used for fermentative production of branched-chain amino acids,
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RESULT 5
AAH64966
ID AAH6
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AC AAH6
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AC AAH6
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DT 26-S

standard;

DNA;

349980 ВP 821

853

26-SEP-2001 AAH64966; AAH64966

(first entry)

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                                                         GTGGTAATTCCAGGTCAGGCCCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGTTGACC
                                                                                                                  CGAACGAAAAAGCAGATCCCTTCTCTGCTGCTCGCAGGTTTGAGCTTCACCATTGCTCTT
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      ATCCGGTACTTCTTCTTGGGAAAGGCTGCTAAA
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100.0%; Pred. No. 2.5e-223;
tive 0; Mismatches 0;
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Best Local Simi
Matches 753;
                                                                                                                                                                                                                                                                                                                                           sequences from the Coryneform bacterium Corynebacterium Jultamicum. These are useful for identifying the mutation point of a gene derived from a mutant of coryneform bacterium, measuring expression amount and analysing the expression profile or expression pattern of a gene derived from Coryneform bacterium, and identifying a homologue of a gene derived from coryneform bacterium. Coryneform bacteria are useful for producing amino acids, nucleic acids, vitamins, saccharides and organic acids, organic acids, vitamins, saccharides and organic acid described in the exemplification of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from the European Patent Office
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Nakagawa
Tateishi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Novel polynucleotides derived from Coryneform bacteria, for identifying mutation point of a gene, measuring expression of a gene, analyzing expression profile or pattern of a gene and identifying homologous gene
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07-APR-2000;
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acid synthesi
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              TTGCTGGTGAACTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAA
                                                                                                                                                      GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC
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                                                                                                                                                                                                                                  GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG
                                                                    ATGCTGGTCATCGCCCTCGTTGTGGGCGCGCAACCCCCTGGGGCGCCATCGCGCTCACCACA
                                                                                           GGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGCCTGATTTTCGCGGGCTCCACCGAA
                                                                                                                 GGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGGCCTGATTTTCGCGGGCTCCACCGAA
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 TTGCTGGTGAACTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAA
                                             ATGCTGGTCATCGCCTCGTTGTGGGCGCAGCGCCCTGGGCGCCATCGCGCTCACCACA
                                                                                                                                                                                                                                                                               Conservative
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Senoh A,
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2000JP-00159162.
2000JP-00280988.
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da M,
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Pred. No. 3.1e-222;
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Ozaki A;
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ATCCGGTACTTCTTGGGAAAGGCTGCTAAA 277581
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RESULT 6 ACA01969 ACA01969 standard; DNA;

04-JUN-2003 ACA01969 (first entry!

Coryneform; C. glutamicum nucleic acid array; derived ORF SEQ ID 1960 fermentation;

/culture;

13-JUN-2001; 2001DE-01028510 13-JUN-2001; 2001DE-01028510 19-DEC-2002 DE10128510-A1 Corynebacterium glutamicum

Z, Moeckel 'n Pfefferle W, Bathe 'n Huthmacher <u>~</u>

New nucleic acid array useful for Corynebacterium glutamicum during from Corynebacterium glutamicum.

monitoring mRNA expression of fermentation, comprising nucleic

acid

WPI; 2003-279970/28

(DEGS)

This invention describes a novel nucleic acid array involving Corynebacterium glutamicum polynucleotides. The arrays are used to corynebacterium glutamicum polynucleotides. The arrays are used to analyse C. glutamicum, particularly for monitoring a fermentation process to determine expression levels of C. glutamicum cellular mRNA. Such monitoring particularly differentiates between expression levels of different strains of C. glutamicum and allows the adjustment of different different strains of C. glutamicum and allows the adjustment of C. monitoring and fermentation conditions. ACA00010-ACA02188 represent C. invention

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RESULT 7
AAF61693/c
ID AAF61693;
XX
AC AAF61693;
XX
AC AAF61693;
XX
DT 12-UU-200
XX
DF C. glutami
XX
DE C. glutami
XX
DE C. glutami
XX
Corynebact
XW
Medicine;
XX
Corynebact
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Best Local Similarity
Matches 564; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 564 BP;
                             05-CCT-1999;
                                                    29-SEP-2000; 2000EP-00121159
                                                                                                    EP1090993-A1
                                                                                                                          Corynebacterium glutamicum
                                                                                                                                                  Fermentation; L-amino medicine; animal feed
                                                                                                                                                                                   C. glutamicum
                                                                                                                                                                                                             12-JUL-2001
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                                                                                                                                                                                                                                                                                                                                                                     480
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CATCGCCCTCGTTGTGGGGCGAAGCGCCCCTGGGGCGAATCGCGCTCACCAAATTGCTGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                  AAAGCAGATCCCTTCTCTGCTGCTGCAGGTTTGAGCTTCACCATTGCTCTTGTGGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAAATTAAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGCCCGTTTCTATTCGGGTTTTCGCGCGTTATCGACGAAGCCTACGCAGTCACTGCGGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAACTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAAAACCCCCAT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAAATTAAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCCGCAGGCTGGTCGGCGACTTATCTCAATGCAAATAGCGTTTCACTCCTACTG
                                                                                                                                                                                                                                                             standard; DNA;
                                                                                                                                                                                                                                                                                                                      CTTCTTCTTGGGAAAGGCTGCTAAA 564
                                                                                                                                                                                                                                                                                                                                       CTTCTTCGGGAAAGGCTGCTAAA 753
                                                                                                                                                                                                                                                                                                                                                                                        TCCAGGTCAGGCCCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGTTGACCATCCGGTA
                                                                                                                                                                                                                                                                                                                                                                                                                   AAAGCAGATCCCTTCTCTGCTGCTCGCAGGTTTGAGCTTCACCATTGCTCTTGTGGTAAT
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ilarity 99.8%;
Conservative
                                                                                                                                                                                   1rp encoding DNA fragment SEQ ID
                                                                                                                                                                                                            (first entry)
                             99DE-01047792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          16
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                                                                                                                                                  acid production;
supplement; ds.
                                                                                                                                                 supplement;
                                                                                                                                                                                                                                                           397
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Pred. No. 2.7e-161;
0; Mismatches 0;
                                                                                                                                                              lrp gene; lysine;
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                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 276; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                               This invention describes a novel isolated nucleic acid (I) from coryneform bacteria used for the fermentative production of selected L-amino acids, by fermenting the amino acid-producing coryneform in which at least the lry gene has been weakened or amplified, then isolating amino acids that have accumulated in the medium or cells. (I) is used to transform coryneforms for production of L-amino acids, specifically lysine and isolatoine, which are used in medicine and particularly as animal feed supplement. It may also be used as probes and primers for isolating related sequences. Regulating expression of (I) improves production of amino acids, especially of L-lysine. This sequence encodes a fragment of the Corynebacterium glutamicum lrp protein which is used in the method described in the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 397 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Moeckel B,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New lrp gene from coryneform bacteria, used to prepare transformants with increased synthesis of amino acids, particularly lysine and isoleucine.
                                                                    104
                                241
                                                                                                       181
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                                                                                                                                                                                                                                                                                       284 GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG
44
                                                                                                                                                                                                                                             61 GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAACCTCCCTT
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                                                                                                                                                                  GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC
                                                                                                                                                                                                                GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAACCTCCCTT
                   ATGCTGGTCATCGCCCTCGTTGTGGGCGCCAGCGCCCCTGG 280
                                                                                           GGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGGCCTGATTTTCGCGGGCCTCCACCGAA
                                                                      GGCTACGAATGGTGGGCAGCCCACTGTTTTCCGGGCCTGATTTTCGCGGGCTCCACCGAA
                                                                                                                                             GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC
 ATGCTGGTCATCGCCCCCGGTTGTGGGCGCACGCCCCGGG
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                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                  96 A; 100 C; 104 G; 97 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                               36.38;
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                                                                                                                                                                                                                                                                                                                                                              Score 273.6; DB 4; Length Pred. No. 1.7e-74; O; Mismatches 4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kalinowski
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RESULT 8
AAF61695/c
ID AAF616
Fermentation; L-amino acid production; medicine; animal feed supplement; ds.
                                                                                                        C. glutamicum
                                                                                                                                       AAF61695;
                                                                     Corynebacterium
                                                                                                                       12-JUL-2001 (first entry)
                                                                                                                                                      AAF61695 standard; DNA;
                                         11-APR-2001
                                                                                                         lrp encoding DNA fragment SEQ
                                                                      glutamicum
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                                                                                            lrp gene; lysine; isoleucine;
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DEGUSSA-HUELS

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29-SEP-2000;

2000EP-00121159

99DE-01047792

(DEGS) DEGUSSA-HUELS

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Best Local S
Matches 276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This invention describes a novel isolated nucleic acid (1) from coryneform bacteria used for the fermentative production of selected L-amino acids, by fermenting the amino acid-producing coryneform in which at least the lry gene has been weakened or amplified, then isolating amino acids that have accumulated in the medium or cells. (1) is used to transform coryneforms for production of L-amino acids, specifically lysine and isolaucine, which are used in medicine and particularly as animal feed supplement. It may also be used as probes and primers for isolating related sequences. Regulating expression of (1) improves production of amino acids, especially of L-lysine. This sequence encodes a fragment of the Corynebacterium glutamicum lrp protein which is used in the method described in the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Example 3; Page 17; 22pp; German.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New lrp gene from coryneform bacteria, used to prepare transformants with increased synthesis of amino acids, particularly lysine and isoleucine.
                                                                                                                                                    Coryneform bacterium; organic acid synthesis
                                                                                                                                                                                                                         26-SEP-2001
                                                                                                                                                                                                                                                                              AAH68373
                                                                                                                                                                                           glutamicum coding sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAAACCTCCCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 778 BP; 175 A; 208 C; 207 G; 188 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                        GGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGCCTGATTTTCGCGGGCTCCACCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTGCAGGTTTGGGCATGTACCCGGATTGGTATTGCGTTTGGTTTGGTTATTCAATAC
                                                                                                                                                                                                                                                                              standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                    ATGCTGGTCATCGCCCTCGTTGTGGGCGCAGCGCCCCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTTGGTCTCTTGGTTATTCAATAC
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ilarity 98.6%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pfefferle
                                                                                                                                                     synthesis;
                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                  amino acid
                                                                                                                                                       ds.
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                                                                                                                                                                                                                                                                               BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 273.6; DB 4
Pred. No. 2.3e-74;
0; Mismatches 4
                                                                                                                                                                                             fragment SEQ ID NO: 3408.
                                                                                                                                                                    synthesis;
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                                                                                                                                                                    vitamin; saccharide;
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03-AUG-2000; 2000JP-00280988
                                                                          P-PSDB; AAG93154
                                                                              2001-376931/40.
                                                                                    Mizoguchi H, Ando S, Hayashi M,
Senoh A, Ikeda M, Ozaki A;
                                                                                        Ochiai K,
                                                                                         Ħ,
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Novel polynucleotides derived from Coryneform bacteria, for identifying mutation point of a gene, measuring expression of a gene, analyzing expression profile or pattern of a gene and identifying homologous gene

Claim 8; SEQ ID NO 3408; 246pp + Sequence Listing; English.

The present invention provides a number of nucleotide and protein sequences from the Coryneform bacterium Corynebacterium glutamicum. These are useful for identifying the mutation point of a gene derived from a mutant of coryneform bacterium, measuring expression amount and analysing the expression profile or expression pattern of a gene derived from Coryneform bacterium, and identifying a homologue of a gene derived from coryneform bacterium. Coryneform bacteria are useful for producing amino acids, nucleic acids, vitamins, saccharides and organic acids, particularly L-lysine. The present sequence is a nucleic acid described in the exemplification of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from the European Patent Office

Query Match
Best Local Similarity Sequence BP; 123 16.9%; A; 190 C; 198 G; 200 T; 0 U; Score 127.4; DB 5; Pred. No. 6.3e-29; 0: Mismatches 296; 0 Other; Indela Length 711;

Q	Вb	Ş	타	Ş	뫄	· Qy	B	Ş	đ	Qy	מם	Q	망	SA.	당	Ş	g	Q	Matches
659 TIGTOGTAATTCCAGGTCAGGCCCTATTTGCGGGCGCTGCTGATCTTCTTGGGTCTGTTGA 718	533 TÓAAÁATAACAAGGÁTTATTÓGCTGCCATTATTÓGCGGTGGTATTGGCTCTGGTTTÓCG 592	599 GCCGAACGAAAAGCAGATCCCTTCTCTGCTGCTCGCAGGTTTGAGCTTCACCATTGCTC 658	473 Arciadalegicaregaritreccióneacosos en interestreción estados en entre en estados en entre en estados en estados en estados en estados en entre en estados en estados en estados en estados en entre entre en entre en entre en entre entre en entre en entre entre en entre e	539 AAATTAAGGGCCTCGAGTTCGCCCTTTGCTCTCTCTTTTGTCACGCTGACTTTGGATTCCT 598	413 AAGCTCTGTGGGTTATCCCCAGGAATTATTGGCGCCTTGGTTGG	479 ACTCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTG 538	353 CAGCCCGCCCACCTGGCGATATCAGTGGCACGCGGGTGCTTACCGTTCAAATTTTGTGCC 412	422 CGGCCAGGCCCGCAGGCTGGTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTC 478	293 ccedecedecedeceratriceaceracedaceerracedaceaeceraceers 352	362 ACCCATTGCCCGTTTCTATTCGGTTTTCGCGCTTATCGACGAAGCCTACGCAGTCACTG 421	233 TCATGGTGAATTTCCGCCACATTTTCTACGGTCTCACCTTCCCACGCCACCGCATCAAGT 292	302 TGCTGGTGAACTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAAA 361	173 Trondecahrodechreericaecegeaegrancegeeegetrineegegegegetreeri 232	242 TGCTGGTCATCGCCCTCGTTGTGGGCGCAGCGCCCCTGGGGCGCCATCGCGCTCACCACAT 301	113 GTTTCGCCTGGTGGTGGACGCCGATTTTCTCCTTCGTGATCTATGCCGGTTCGATGGAAT 172	182 GCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGCCTGATTTTCGCGGGGCTCCACCGAAA 241	53 CGGTCGGTTTGGGCCTGATTCCGCTGGGTTTGGGCCTTTGGGCTGTTGATGGTCCAGACAG 112	122 CTGCAGGTTTGGGCATGTACCCCGATTGGTATTGGGTTTTGGTCTCTTGGTTATTCAATACG 181	318; Conservative 0; Mismatches 296; Indels 3; Gaps 1;

16-DEC-1999; 99JP-00377484 07-APR-2000; 2000JP-00159162

18-DEC-2000; 2000EP-00127688

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Best Local Similarity
Matches 318; Conserv
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                                                                                                                                                                                                                                                                                     This invention describes a novel nucleic acid array involving Corynebacterium glutamicum polynucleotides. The arrays are used to analyse C. glutamicum, particularly for monitoring a fermentation process to determine expression levels of C. glutamicum cellular mRNA. Such monitoring particularly differentiates between expression levels of different strains of C. glutamicum and allows the adjustment of different culture and fermentation conditions. ACA00010-ACA02188 represent C. glutamicum derived polynucleotides described in the disclosure of the
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TCATGGTGAATTTCCGCCACATTTTCTACGGTCTCACCT
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07-APR-2000;
03-AUG-2000;
                                                                                                                                                                                                                                                                                Nakagawa
Tateishi
                                                                                                                                                                 Novel polynucleotides derived from Coryneform bacteria, for identifultation point of a gene, measuring expression of a gene, analyzing expression profile or pattern of a gene and identifying homologous
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EP1108790-A2
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The present invention provides a number of nucleotide and protein sequences from the Coryneform bacterium Corynebacterium Gultamicum are useful for identifying the mutation point of a gene derived from mutant of coryneform bacterium, measuring expression amount and analythe expression profile or expression pattern of a gene derived from the expression profile or expression pattern of a gene derived from coryneform bacterium, and identifying a homologue of a gene derived

expression pattern identifying a homo:

derived from gene derived

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analysing

These

Disclosure; SEQ ID NO 7069; 246pp + Sequence Listing;

English

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ACA01968
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Matches 318
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      DE10128510-A1
                                                              Corynebacterium
                                                                                                                       Coryneform;
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                                                                                                                       nucleic acid array;
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Pred. No. 9.6e-28;
0; Mismatches 296;
                                                                                                                       fermentation;
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RESULT 13
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Best Local Sim.
Matches 106;
                                                                                                                     Key
-35_signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This invention describes a novel nucleic acid array involving Corynebacterium glutamicum polynucleotides. The arrays are used to corynebacterium glutamicum, particularly for monitoring a fermentation process to determine expression levels of C. glutamicum cellular mRNA. Such monitoring particularly differentiates between expression levels of different strains of C. glutamicum and allows the adjustment of different culture and fermentation conditions. ACA00010-ACA02188 represent C. glutamicum derived polynucleotides described in the disclosure of the
                                                                                                                                                                                     Fermentation; L-amino acid production; medicine; animal feed supplement; ds.
                                                                                                                                                                                                                                                                                          AAF61688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New nucleic acid array useful for Corynebacterium glutamicum during from Corynebacterium glutamicum.
                                          EP1090993-A1
                                                                                     CDS
                                                                                                                                                                Corynebacterium
                                                                                                                                                                                                                                             12-JUL-2001
                                                                                                                                                                                                                                                                   AAF61688;
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                                                                                                        /*tag= a
88. .93
                                                                                                                                                                glutamicum
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151. .615
/*tag= c
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   14.1%; Score 106; DB 7;
100.0%; Pred. No. 1.5e-22;
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Best Local
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                                                                                                                                                                                                                                                                                                     LT 14
1938/c
ADA71938
                               Chang H,
Katagiri
                                                                                                                                                                                                                                     Rice
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            WPI; 2003-175290/17
                                                                                                                                                                               Oryza sativa
                                                                                      22-JUN-2001; 2001WO-1B001105
                                                                                                              22-JUN-2001; 2001WO-IB001105
                                                                                                                                                          WC2003000898-A1
                                                                                                                                                                                                              Plant;
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                                                                  SYNGENTA PARTICIPATIONS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Page 14-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG
                                 'n
                                                                                                                                                                                                                                                                                                                                                               GAACCAGATGATAAAGGTTATCGGC 1
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                                 Chen W, F, Quan
                                                                                                                                                                                                                                                                                                        standard;
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                                                                                                                                                                                                              infection; fungal infection; viral infection;
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                                 Cooper B,
S, Tao Y,
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          bacteria, used to prepare transformants with acids, particularly lysine and isoleucine.
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                                 Glazebrook J, (Whitham S, Xie
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gene Identifying at least one gene involved in plant resistance or response pathogenic infection for conferring resistance or tolerance to a plant bacterial, fungal or viral infection by determining or detecting plant expression. 0 0

27; SEQ ID NO 5263; 899pp; English.

FEFEXSKOOODDOODDOXX

The present invention relates to a method (M1) for identifying genes involved in plant resistance or response to pathogenic infection. M1 comprises identifying a gene whose expression is significantly altered in the incompatible interaction of plant gene expression relative to expression of the gene in an uninfected plant, in a mutant plant that does not express a gene associated with response to pathogenic infection, or in a corresponding incompatible or compatible interaction. (M1) is useful for conferring resistance to resistance or tolerance to a plant to bacterial, fungal or viral infection. The present sequence was used to illustrate the invention.

Sequence 2000 BP; 336 A; 265 C; 284 G; 363 H, 0 U; 752 Other;

Query Match Best Local S Matches 75

Similarity

10.2%; 328;

Score 47; I Mismatches

DB 7; .001;

Length 2000; Indels

323;

Gaps

75;

Conservative

Ъ Ş Ś 밁 S 밁 S S 8 밁 S 닭 S 밁 Ś 밁 Ś 밁 S 문 S 밁 문 498 558 616 676 479 378 438 248 736 138 8 AAACGCAAGAGTTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTGGAACCAG RMRWSAWRYCSRMKCAKTKYASSARWTKRAKRSYRYRRRWYWKRKGWTYRYRYWRSCRMT RCYCWRYATCYWCCCYRKRGWYSRRSMMRTAGKWKMRSWSRWCRSYSWYKMYKKMWKKSY 259 AAAACCCCATTGCCCGTTTCTATTCGGTTTTCGCGCTTATCGACGAAGCCTACGCAGTCA 418 YMKWKCTWRRCMCYRWGYTMYTTSRSRWMYTGRYKARYTSKRRYMWYKYRKYCWYYYYGM RARMSKRRKWAGASMKSCWMYWRGARSMWYSKYSCSAKCCKKTRYMTSSYMSTGMYGMYS SCAYCSTSSTSRWMSMYYAAKMGMCGSSGMYRMSKSCKMYSKYSSCKYTGSKKCTKRKYY CCKKYCSCCTKYCSYTGYYRYCKWYKYSYYKCYYCYCYWYMSYMRYMMKCMCSRSCSSWM GCCGAACGAAAAAGCAGATCCCTTCTCTGCTGCTCGCAGGTTTGAGCTTCACCATTGCTC AAATTAAGGGCCTCGAGTTCGCCCTTTGCTCTCTCTTTGTCACGCTGACTTTGGATTCCT ACTCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTG 538 SMKYGAKGCYGCKMWTYCSYGYMKWYTYMGSYKYSRCYKYMRMYMYKGWMYMMYYSAYSS CATTGCTGGTGAACTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCA YMKCSYMMRYGYCKACKKCCYAMCWKAAYSGMMYWYRKYSKWMRMSTKYMWSMWYKKCR TCATCGCCCT-----ANTEGTEGGCAGCCCACTGTTTTCCGGCCTGATTTTCGCGGGGCTCCACCGAAATGCTGG S--YKSMSWTSKMSYMGKMTCTMYTSMKGSTRRSKMGRWSGMSRMYMRWWKKMRKRKYMR GTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATACGGCTACG ATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAACCTCCCTTGCTGCAG TIGIGGTAATICCAGGTCAGGCCCTATITGCGGCGCTGCTGATCTTCTTGGGTCTGTTGA SKWKYMSKSCSMRMTCSSWCSCCYTCYYGAMCWSCCMSMMYMGSCGCYTRGWKWRSKYSM YMSYGWARSSGTWSRSAAKRTYKGYSTSRRAKMMRACRMYSACRRYSRTSYYCGCSYCGS CTGCGGCCAGGCCGCAGGCTGGTCGGCGACTTATCTCAATGCAAATAGCGTTTC MMTWYYYYAKYWKYWYKRRGTMSWYGKSYKKKYCTWWCYMKCMRCYRWRKMMRKKTKYSK 319 CGTTGTGGGCGCAGCGCCCCTGGGCGCCATCGCGCTCACCA 358 499 187 617 677 478 439 298 559 19 79 658 139 199

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Matches 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This sequence represents a gene encoding a subunit of the cellulose synthase complex of Vigna angularis. The invention relates to subunits of cellulose synthetic equipment, that can be used to increase the amount of cellulose synthesised by a plant. The proteins and genes encoding them can also be used to improve the properties of the cellulose being produced by a plant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JP2000060568-A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 2; Page 14-21; 32pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26-AUG-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 10732 BP; 3149 A; 1212 C; 2074 G; 2046 T; 0 U; 2251 Other;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gene encoding a cellulose synthetic equipment - for the improvement he amount of cellulose synthesized in a plant body.
9649 TISRCIBYSTBTBTTSRCAXCIBDSTSTAKNSTSTYSTTRCIBYSSRSRGYSYCSRSRSR 9590
                                                                                                  9709
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                                                                                                                                                CTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAAATTAAGGGCCTCG-AGTTCGC 560
                                              TCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCACTCCTACTGGGTATTCGGCGGT 501
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680
9589 CYSCYDDSTCYSTYAYSCTTSRGYSYDASRSTSTYSRCTTSTYSYSTTDYSDC 9530
Qy
681 CCTATTTGCGGCTG 696
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9529 SDYSTTTBNSTYSSDS 9514
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Search completed: April 19, 2004, 11:42:00 Job time: 352.669 secs

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/cgn2_6/ptcdata/2/ina/6A_COMB.seq:*
/cgn2_6/ptcdata/2/ina/6B_COMB.seq:*
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US-09-252-991A-11376
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US-09-322-149A-12
US-09-685-166A-12
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Compugen Ltd.
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            Sequence 8976, Ap

Sequence 3205, Ap

Sequence 12, Appl

Sequence 13, Appl

Sequence 16556, Appl

Sequence 2399, Appl

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Best Local Similarity 100.0%; P
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                                                                                         GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC
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                  GGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGGCCTGATTTTCGCGGGCTCCACCGAA
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ALIGNMENTS

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APPLICANT: SAHM, HERWAND
APPLICANT: SAHM, HERWAND
APPLICANT: SGRELING, LOTHAR
APPLICANT: PFEFFERLE, WALTER
TITLE OF INVENTION: NUCLECTIDE SEQUENCE CODING FOR THE EXPORT OF
TITLE OF INVENTION: NUCLECTION THEREOF AND USE THEREOF
TITLE OF INVENTION: ISOLATION THEREOF AND USE THEREOF
FILE REFERENCE: 21123/265496/MAS
CURRENT APPLICATION NUMBER: US/09/471,803A
CURRENT FILING DATE: 1999-12-23
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR FILING DATE: 1999-10-27
NUMBER OF SEQ ID NOS: 12
SOPTWARE: Patentin Ver. 2.1
SEQ ID NO
LENGTH: 753
TYPE: DNA
ORGANISM: Corynebacterium glutamicum
FEATURE:
                                                                            ; NAME/KEY: CDS; LOCATION: (1)..(753); OTHER INFORMATION: brnf; OTHER INFORMATION: ATCC14752 US-09-471-803A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 2, Application US/09471803A Patent No. 6613545
GENERAL INFORMATION:
Score 753; DB 4; Pred. No. 2.2e-231;
                            Length 753;
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Mismatches

Indels

0

Gaps

0

240 180

240

120 180

60 60

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APPLICANT: ENNERGHE, WAITER
APPLICANT: SAHM, HERWANN
APPLICANT: SAHM, HERWANN
APPLICANT: BGGELLNG, LOTHAR
APPLICANT: BGGELLNG, LOTHAR
APPLICANT: BFEFFERLE, WAITER
TITLE OF INVENTION: NUCLEOTIDE SEQUENCE CODING FOR THE EXPORT OF
TITLE OF INVENTION: BRANCHED CHAIN AMINO ACIDS, PROCESS FOR THE
TITLE OF INVENTION: ISOLATION THEREOF AND USE THEREOF
FILE REFERENCE: 21123/265496/MAS
CURRENT APPLICATION NUMBER: US/09/471,803A
CURRENT FILING DATE: 1999-12-23
PRIOR APPLICATION UNUMBER: DE 199 51 708.8
PRIOR FILING DATE: 1999-10-27
NUMBER OF SEQ ID NOS: 12
SOFTWARE: PATENTIN Ver. 2.1
SEQ ID NO 1
LENGTH: 1271
                                              NAME/KEY: gene
LOCATION: (101)...(853)
COTHER INFORMATION: brnf
NAME/KEY: gene
LOCATION: (853)...(1176)
OTHER INFORMATION: brnE
OTHER INFORMATION: brnE
OTHER INFORMATION: ATCC14752
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                                                                                                                                                                                                                                                                                                                                                                            Sequence 1, Application US/09471803A Patent No. 6613545
GENERAL INFORMATION:
Query Match
Best Local Similarity 100.0%;
Matches 753; Conservative
                                                                                                                                                LENGTH: 1271
TYPE: DNA
ORGANISM: Corynebacterium
FEATURE:
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   Score 753; DB 4; 1
Pred. No. 2.9e-231;
; Mismatches 0;
                           Length 1271;
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                     ATCCGGTACTTCTTCGGGAAAGGCTGCTAAA
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US-09-471-803A-6

Sequence 6, Application US/09471803A

Patent No. 66:3545

GENERAL INFORMATION:

APPLICANT: KENNERKNECHT, NICOLE

APPLICANT: SAHM, HERMANN

APPLICANT: SHAM, HERMANN

APPLICANT: PREFFERLE, WALTER

TITLE OF INVENTION: NUCLEOTICE SEQUENCE CODING FOR THE EXPORT OF

TITLE OF INVENTION: BRANCHED CHAIN AMINO ACIDS, PROCESS FOR THE

TITLE OF INVENTION: 1SOLATION THEREOF AND USE THEREOF

FILE REFERENCE: 21123/265496/MAS

CURRENT APPLICATION NUMBER: US/09/471,803A

CURRENT FILING DATE: 1999-12-23

PRIOR APPLICATION NUMBER: DE 199 51 708.8

PRIOR APPLICATION NUMBER: DE 199 51 708.8

PRIOR FILING DATE: 1999-10-27

NUMBER OF SEQ ID NOS: 12

SOFTWARE: Patentin Ver. 2.1
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SEQ ID NO 6

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NAME/KEY: gene
LOCATION: (101)...(853)

OTHER INFORMATION: brnF

NAME/KEY: gene
LOCATION: (853)...(1176)
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OTHER INFORMATION: ATCC13032
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ORGANISM: Corynebacterium
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Pred. No. 2.9e-231;
Mismatches 0;
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RESULT 4 US-09-489-039A-3016

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Sequence 3016, Application US/09489039A

Patent No. 6610836

Patent No. 6610836

Patent INFORMATION:

APPLICANT: Gary Breton et. al

APPLICANT: Gary Breton et. al

FILLE OF INVENTION: PUEUMONIAE FOR DIAGNOSTICS AND THERAPEUTICS

FILLE REFERENCE: 2709.2004001

FILE REFERENCE: 2709.2004001

FILE REPERENCE: 2000-01-27

FRIOR APPLICATION NUMBER: US 60/117,747

PRIOR FILING DATE: 2000-01-29

NUMBER OF SEQ ID NO3: 14342

SEQ ID NO 3016

LENGTH: 756

THEREFORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 14, Application US/08232463

Patent No. 5670367

GENERAL INFORMATION:
APPLICANT: DORNER, F.
APPLICANT: SCHEIFLINGER, F.
APPLICANT: FALKNER, F. G.
ITITLE OF INVENTION: RECOMBINANT FOWLPOX VIRUS
NUMBER OF SEQUENCES: 52
CORRESPONDENCE ADDRESS:
ADDRESSE: Foley & Lardner
STREET: 1800 Diagonal Road, Suite 500
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US-09-489-039A-3016
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                                                                                                                                                                                                        COUNTRY: USA
ZIP: 22313-0299
COMPUTER READABLE FORM:
WEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATCHOLIN Release #1.0, V.
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/232,463
                                                                                                      FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
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CITY: Alexandria
STATE: VA
                                   APPLICATION NUMBER: FILING DATE:
APPLICATION NUMBER:
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Pred. No. 8.6e-09;
0; Mismatches 119;
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                                                                                                                                                                                                                                                                                                           RESULT 6
US-09-107-532A-1266
                                                                                                                                            Sequence 1266, Application.

Sequence 1266, Application.

Patent No. 6583275

GENERAL INFORMATION:

APPLICANT: Lynn A Doucette-Stamm and David Bush

APPLICANT: Lynn A Doucette-Stamm and David Bush

ENTEROCOCCUS FAECIUM FOR DIAGNOSTICS AND THERAPEUTICS

TITLE OF INVENTION: NUCLEIC ACID AND ANINO ACID SEQUENCES RELATING TO

ENTEROCOCCUS FAECIUM FOR DIAGNOSTICS AND THERAPEUTICS

TOTOCOMMENT OF SECUENCES: 7310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 6.1% Best Local Similarity 5.2%; Matches 21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REGISTRATION NUMBER: 29 768
REFERENCE/DOCKET NUMBER: 3047
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)836-9700
TELEFAY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
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IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: 26-AUG-1991
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: CD/ROM ISO9660
                                                                                                                                                                                                                                                                                                                                                                                                                                        1341
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER: PC
OPERATING SYSTEM: <Unknown>
SOFTWARE: ASCII
                                                                                                                                                                                                                                                                                                                                                                                                       TIGICACGCIGACTITGGATTCCTGCCGAACGAAAAAGCAGATCCCT 621
                                                                                                                 STATE: Massachusetts
                                                                                                                                           ADDRESSEE: GENOME THERAPEUTICS CORPORATION STREET: 100 Beaver Street
                                                                                ZIP: 0235
                                                                                                                                ITY: Waltham
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6.1%; Score 46.2; DB 1; ilarity 5.2%; Pred. No. 0.00027; Conservative 214; Mismatches 172;
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ORGANISM: Pseudomonas aeruginosa

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TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS;
TITLE OF INVENTION: ABCUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 107196.136
CURRENT FILING DATE: 1999-02-18
CURRENT FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
PRIOR PILING DATE: 1998-07-18
PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
SEQ ID NO 11376
LENGTH: 1038
TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: misc feature;
LOCATION: (B) LOCATION 1...768;
SEQUENCE DESCRIPTION: SEQ ID NO: 1266:
US-09-107-532A-1266
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Best Local
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FILING DATE: 14 May 1998
APPLICATION NUMBER: 60/051571
FILING DATE: July 2, 1997
ATTORNEY/AGENT INFORMATION:
NAME: Ariniello, Pamela Deneke
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/09/107,532A PILING DATE: 30-Jun-1998 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REGISTRATION NUMBER: 40,489
REFERENCE/DOCKET NUMBER: GTC-012
TELECOMMUNICATION INFORMATION:
TELEPHONE: (781)893-8277
TELEPAX: (781)893-8277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: circular MOLECULE TYPE: DNA (gene HYPOTHETICAL: NO
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Pred. No. 0.0092;
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FILE REFERENCE: 107196.136
CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
PRIOR FILING DATE: 1998-02-18
PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
SEQ ID NO 11418
LENGTH: 1086
                                          Sequence 8976, Application US/09621976
Patent No. 6639063
Patent No. 6639063
GENERAL INFORMATION:
APPLICANT: Dumas Milne Edwards, J.B.
APPLICANT: JOBERT, S.
APPLICANT: JOSERT, S.
APPLICANT: GIOTGANO, J.Y.
ITILE OF INVENTION: ESTS and Encoded Human Properties REFERENCE: GENSET.054PR2
CURRENT APPLICATION NUMBER: US/09/621,976
CURRENT EILING DATE: 2000-07-21
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US-09-621-976-8976/c
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US-09-252-991A-11418
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
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Best Local
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TITLE OF INVENTION: NUCLEIC ACID AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 107196.136
NUMBER OF SEQ ID NOS: 19335
SOFTWARE: Patent.pm
SEQ ID NO 8976
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM: Pseudomonas aeruginosa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: DNA
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5. 6551795
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77; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
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                                                                                                                                                                                                                                                                                                               ATGCGTTTTCATTCCCGCTG 348
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 39.2;
Pred. No. 0.
                                                                                                                                                                                                                                                                                 361
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .017;
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                                                                                                  Proteins.
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   FILE REFERENCE: 107196.136
CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
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FILE REFERENCE: 107196.136
CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
PRIOR FILING DATE: 1998-02-18
PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
SEQ ID NO 3205
LENGTH: 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; ORGANISM: Homo sapiens
US-09-621-976-8976
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 10
US-09-252-991A-3205/c
              Patent No. 6551795;
GENERAL INFORMATION;
APPLICANT: MARC J. R.
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                  RESULT 11
US-09-252-991A-2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-252-991A-3205
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Best Local S
Matches 30
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GENERAL INFORMATION: Rubenfield et al.
APPLICANT: Marc J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 107196.136
FILE REFERENCE: 107196.136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 3205, Application US/09252991A Patent No. 6551795
                                                                                                          Sequence 2761, Application US/09252991A Patent No. 6551795
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TYPE: DN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: DNA ORGANISM: Pseudomonas aeruginosa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5.2%; Score 39; DB 4;
Local Similarity 12.6%; Pred. No. 0.012;
les 30; Conservative 112; Mismatches 97
                                                                                                                                                                                                                                                                                                                                                                                                            4.9%;
Local Similarity 58.0%;
es 65; Conservation
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    629 TGCTCGCAGGTTTGAGCTTCACCATTGCTCTTGTGGTAATTCCAGGTCAGGCCCTATTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 242 SAMWRKKKMTCWKGRSSWGSRSTGYYAWMYKKSWCTSRKWMYYKKRRKKWRRKCTSTKRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             509 GAGTGGCGATCGCAGAGTTGATTCCTTTTGAAATTAAGGGCCTCGAGTTCGCCCTTTGCT
                                                                                                                                                                                                                                                                                                                                   465
                                                                                                                                                                                                                                              405
                                                                                                                                                                                                                                                                                        271
                                                                                                                                                                                                                                                                                                                                                                             211 TCCGGCCTGATTTTCGCGGGCTCCACCGAAATGCTGGTCATCGCCCTCGTTGTGGGCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               62 MMKWGKSMWWKWTYYYYYMMKWSKMTYWSMMSCYARKCWRTYAKTYTWMTCMTWGKRT
                                                                                                                                                                                                                                                                                                                                 TACTTCCTGATCAACCTCGGCGCCGCCCTCGGCCCGCTGATCGGCCTGACTCTCGGCGTC 406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGGCGCTGCTGATCTTCGGGTCTGTTGACCATCCGGTACTTCTTCTTGGGAAAGGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CIMCWKCTTYWMAGIMMYRYRRYWYYAKRAKWSKRCIWSTTCYCMKYMAKKCWSYWWSMS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CYRGSTYKCWKAYYTKKRRKWTRWTYYYYKSYMSMKKTWRMKTAYYWTKRWKMTRTKWTW 123
                                                                                                                                                                                                                                                                                 GCGCCCCTGGGCGCCATCGCGCTCACCACATTGCTGGTGAACTTCCGCCACG 322
                                                                                                                                                                                                                                              GCCGCCCAGGCCACCTTCCTGGTCACCGCGCTGGTCTACTTCTGCTACG
ON: AERUGINOSA FOR 107196.136
                                          Rubenfield et al.
NUCLEIC ACID AND AMINO
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Pred. No. 0.1;
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                       ND AMINO ACID SEQUENCES RELATING DIAGNOSTICS AND THERAPEUTICS
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COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DCS/MS-DOS
SOFTWARE: PATENTIA Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/020,956
FILING DATE: 09-FEB-1998
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Maki, David J.
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                                                                                                                                                                                            US-09-020-956-12
                                                                                                                                                                                                                                            TELEPAX: (200/ UL. 12
INFORMATION FOR SEQ ID NO: 12
SEQUENCE CHARACTERISTICS:
LENGTH: 751 base pairs
TYPE: nucleic acid
TYPE: nucleic acid
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SEQ ID NO 2761
LENGTH: 2061
TYPE: DNA
ORGANISM: Pseudomonas aeruginosa
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Best Local Similarity
Matches 65; Conserv
                                                                                                                    Matches
                                                                                                                                    Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
APPLICANT: Xu, Jiangchun
APPLICANT: Dillin, Davin C.
APPLICANT: DIVENTION: COMPOUNDS
NUMBER OF SEQUENCES: 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR FILING DATE: 1998-02-18
PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
                                                                                                                                                                                                                                                                                                                                                          REGISTRATION NUMBER: 31,392
REFERENCE/FOCKET NUMBER: 211
TELECOMMUNICATION INFORMATION:
TELEPHONE: (206) 622-4900
                                                                                                                                                                                                          TOPOLOGY: linear DLECULE TYPE: cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1273 TACTICCIGATCAACCICGGCGCCGCCCTCGGCCGCTGATCGGCCTGACTCTCGGCGTC 1332
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                                                                            TCGCGCTCACCACATTGCTGGTGAACTTCCGCCACGT 323
                                        CGTTCTTCTTCATCNTCCTCNTCATCTTCATTGCTGAGGTNGCAGCTGCTGTGGTCGCCT
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                                                                                                                    Conservative
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                                                                                                                                  59.8%;
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Pred. No. 0.14;
0; Mismatches 47; Indels 0
                                                                                                                Score 36.4; DB Pred. No. 0.11; 0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           701 Fifth Avenue
                                                                                                                                                    DB 3;
                                                                                                                    39;
                                                                                                                                                    Length 751;
                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSTATE CANCER AND METHODS
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                                                                                                                    Gaps
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RESULT 14

US-09-439-313-12/c

Sequence 12, Application US/09439313 Patent No. 6329505

INFORMATION:

APPLICANT: Xu, Jiangchun APPLICANT: Dillon, Davin APPLICANT: Mitcham, Jenni APPLICANT: Harlocker, Su APPLICANT: Jiang Yuqui

Dillon, Davin C. Mitcham, Jennifer L.

Harlocker, Susan Louise

Fanger, Gary Retter, Mark Solk, John

Reed, Steven G. Kalos, Michael

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RESULT 13
US-09-030-607-12/c
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HOLECULE TYPE:
US-09-030-607-12
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MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-FÖS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION UMBER: US/09/030,607
FILING DATE: 25-FEB-1998
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Maki, David J.
REGISTRATION NUMBER: 31.392
REFERENCE/DOCKET NUMBER: 210121.427C3
TELECOMMUNICATION INFORMATION:
TELEPHONE: (206) 622-4900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 12, Application US/09030607 Patent No. 6262245
                                                                                                                                         Query Match
Best Local Similarity
Matches 58; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Patent No.
                                                                                                                                                                                                                                                                                              TELEFAX: (206) 682-6031
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 751 base pairs
TYPE: nucleic acid
CTRANTERUES. Cipal
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ADDRESSEE: SEED and BERRY LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Xu, Jiangchun APPLICANT: Dillon, Davin C. APPLICANT: DILON: COMPOUN TITLE OF INVENTION: COMPOUN NUMBER OF SEQUENCES: 224
                                                                                                                                                                                                                                                                STRANDEDNESS: single TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ZIP: 98104
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CITY: Seattle
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350
                                      287 TCGCGCTCACCACATTGCTGGTGAACTTCCGCCACGT 323
                                                                                                               227 CGGGCTCCACCGAAATGCTGGTCATCGCCCTCGTTGTGGGCGCAGCGCCCTGGGCGCCA 286
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TGGTGTACACCACAATGGCTGAGCACTTCCCTGACGT 314
                                                                        COTTCTTCATCNTCCTCNTCATCTTCATTGCTGAGGTNGCAGCTGCTGGTCGCCT 351
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                                                                                                                                                 Conservative
                                                                                                                                                                   4.8%;
59.8%;
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                                                                                                                                                 Score 36.4; DB Pred. No. 0.11; 0; Mismatches
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                                                                                                                                                                                       DB 3;
                                                                                                                                                     39;
                                                                                                                                                                                     Length 751;
                                                                                                                                                     Indels
                                                                                                                                                     0
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RESULT 15

US-09-352-616A-12/c

(Sequence 12, Application US/09352616A)

Patent No. 6395278

GENERAL INFORMATION:
APPLICANT: Dillon, Davin C.
APPLICANT: Harlocker, Susan Louise
APPLICANT: Mitcham, Jennifer Lynn
COMPOUNDS FOR IMMUNOTHERAPY AND DIAGNOSIS
TITLE OF INVENTION: OF PROSTATE CANCER AND METHODS FOR THEIR USE
FILE REFERENCE: 210121.427C8
CURRENT APPLICATION NUMBER: US/09/352,616A
CURRENT FILLING DATE: 1999-07-13
INUMBER OF SEQ ID NOS: 472
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 12
LENGTH: 75.1
TYPE: DNA
ORGANISM: Homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Day, Craig
FITTLE OF INVENTION: COMPOSITIONS AND METHODS FOR THERAPY AND
FILLE OF INVENTION: DIAGNOSIS OF PROSTATE CANCER
FILLE REFERENCE: 210121.42709
CURRENT APPLICATION NUMBER: US/09/439,313
CURRENT FILING DATE: 1999-11-12
NUMBER OF SEQ ID NOS: 575
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 12
LENGTH: 751
TYPE: DNA
ORGANISM: Homo sapien
FEATURE:
NAME/KEY: misc_feature
LOCATION: (1)...(751)
OTHER INFORMATION: n = A,T,C or G
US-09-439-313-12
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; NAME/KEY: misc_feature

; LOCATION: (1)...(751)

; OTHER INFORMATION: n = A,T,C or G

US-09-352-616A-12
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                                                                                                                                                                                                                Query Match 4.8%; Score 36.4; DB 4; Length 751; Best Local Similarity 59.8%; Pred. No. 0.11; Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps
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                                                                                                     227 CGGGCTCCACCGAAATGCTGGTCATCGCCCTCGTTGTGGGCGCAGCGCCCCTGGGCGCCA 286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        350 TGGTGTACACCACATGGCTGAGCACTTCCCTGACGT 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              410 CGTTCTTCTTCATCNTCCTCNTCATCTTCATTGCTGAGGTNGCAGCTGCTGTGGTCGCCT 351
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350 TGGTGTACACCACAATGGCTGAGCACTTCCCTGACGT 314
                                        287 TCGCGCTCACCACATTGCTGGTGAACTTCCGCCCACGT 323
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Search completed: April 19, 2004, 18:38:14 Job time \cdot 68 4023 secs

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Minimum DB
Maximum DB
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Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Run on:
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No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Total number of hits satisfying chosen parameters:
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     33.8
33.8
                                                                                                                                                                                                                                                                                                                                                                                                                                    No. is the number of results predicted by chance to have a greater than or equal to the score of the result being printed, s derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     nucleic search, using sw model
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length: 2000000000
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753
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Gapop 10.0 , Gapext 1.0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1362413 seqs, 329030602 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Match Length DB
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| (gn2_6/ptodata/1/pna/PCT_NEW_COMB.seq:*
| (cgn2_6/ptodata/1/pna/Us06_NEW_COMB.seq:*
| (cgn2_6/ptodata/1/pna/Us07_NEW_COMB.seq:*
| (cgn2_6/ptodata/1/pna/Us08_NEW_COMB.seq:*
| (cgn2_6/ptodata/1/pna/Us08_NEW_COMB.seq:*
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  GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd.
                                                                    US-10-767-701-10854
US-10-417-884A-1266
US-10-767-701-5263
US-10-767-701-10866
US-10-10-683-193
US-10-767-701-744
US-10-767-701-744
US-10-767-701-744
US-10-765-790-62
US-60-548-091-19934
US-60-548-091-19934
US-60-548-091-19934
US-10-767-701-30189
US-10-767-701-30189
US-10-765-303-459
US-10-755-303-459
US-10-755-303-459
US-10-755-303-459
US-10-755-303-459
US-10-755-303-459
US-10-775-920-136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUMMARIES
Sequence 10854, Apsequence 5263, Apsequence 5263, Apsequence 10866, Apsequence 10866, Apsequence 11511, Apsequence 7545, Apsequence 62, Apple Sequence 62, Apple Sequence 5686, Apsequence 1993, Apsequence 1993, Apsequence 23189, Apsequence 23189, Apsequence 1371, Apsequence 136, Apple Sequence 136, Apple Sequence 136, Apple Sequence 459, Apple Sequence 459, Apple Sequence 459, Apple Sequence 458, Apple Sequence 131, Apple Sequence 131, Apple Sequence 133, Apple Sequence 134, Apple Sequence 134, Apple Sequence 135, Apple Sequence 136, Apple Sequence 136, Apple Sequence 137, Apple Sequence 137, Apple Sequence 138, Apple S
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T-ILC	-10-7	-10-7	-10-7	T-USC	-10-7	-10-7	-10-7	-10-7	-10-7	-60-5	r-USO	-60-5	-60-5	-60-5	-60-5	-60-5	60-5	-10-7
PCT-IL04-00078-35	US-10-769-565-8	US-10-763-450-8	US-10-767-701-19807	PCT-US03-38685-2	US-10-767-701-3886	US-10-796-307-8770	US-10-796-307-8771	US-10-796-307-259	US-10-796-307-258	US-60-548-091-563	PCT-US04-07467-29	US-60-555-303-460	US-60-552-390-625	-60-555-303-457	US-60-552-390-627	-60-555-303-461	-60-552-390-623	-10-775-920-134
078-3	8-59	50-8	01-19	685-2	01-36	07-87	07-87	07-25	07-25	91-56	167-2	13-46	90-62	3-45	0-62	3-46	90-62	20-13
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ALIGNMENTS

RESULT 1 US-10-767-701-10854

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APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Otl
TITLE OF INVENTION: Plants and Uses Thereof For
TITLE OF INVENTION: Plants and Uses Thereof For
TITLE OF INVENTION: NUMBER: US/10/767,701
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 10854
LENGTH: 1014
RESULT 2
US-10-417-884A-1266
US-10-417-884A-1266; Application US/1041/...
; SEQUENCE 1266; Application US/1041/...
; GENERAL INFORMATION:
; APPLICANT: Lynn A Doucette-Stamm
; APPLICANT: Lynn A DOUCETTC ACID
ENTEROCOCCUS
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Best Local Similarity 49.3%;
Matches 105; Conservative
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ORGANISM: Sorghum bicolor
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             311
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and David Bush AND AMINO ACID SEQUENCES RELATING TO FAECIUM FOR DIAGNOSTICS AND THERAPEUTICS

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LOCATION: (B) LOCATION 1...7
SEQUENCE DESCRIPTION: SEQ ID NO:
US-10-417-884A-1266
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                                                                                                                 RESULT 3
US-10-767-701-5263
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APPLICATION UNMER: US/10/417,884A
FILING DATE: 17-Apr-2003
PRIOR APPLICATION DATA:
APPLICATION UNMER: US/09/107,532
FILING DATE: 30-Jun-1998
APPLICATION NUMBER: 60/085,598
FILING DATE: 30-Jun-1998
APPLICATION NUMBER: 60/051571
FILING DATE: 14 May 1998
APPLICATION NUMBER: 60/051571
FILING DATE: July 2, 1997
ATTORNEY/AGENT INFORMATION:
NAME: Ariniello, Pamela Deneke
REGISTRATION NUMBER: 40,489
REFERENCE/DOCKET NUMBER: GTC-012
TELEPHONE: (781)893-5007
TELEPHONE: (781)893-507
INFORMATION POR SEQ ID NO: 1266:
SEQUENCE CHARACTERISTICS:
Sequence 5263, Application US/10767701
GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches 104;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
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COMPUTER READABLE FORM:
MEDIUM TYPE: CD/RO
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CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY: circular MOLECULE TYPE: DNA (genomic) HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ANTI-SENSE: NO ORIGINAL SOURCE:
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STATE: Massachusetts
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OPERATING SYSTEM: <Unknown>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 768 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
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                                                                                                                                                                                                                                                                                                                                                     TCGCGCTCACCACATTGCTGGTGAACTTCCG 317
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ilarity 49.3%;
Conservative
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Pred. No. 0.0082;
0; Mismatches 107;
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RESULT 5 US-10-100-683-983/c

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Best Local S
Matches 72
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APPLICANT: Cao, Yongwei
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(53535)B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 5263
LENGTH: 619
                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 10866
LENGTH: 1034
TYPE: """
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GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(5355)B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
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Best Local
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                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Sorghum bicolor
                                                                                                                                                                                                                                                                                                                                             FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 132 GCGGCCTTCACCTTGCTGGTGCTGTCGGGGGCTGGCGGTGACGGGCACAGTGCTGGCGCTC 191
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  271
                                361 AACCCCATTGCCCGTTTCTATTCGGTTTTCGCCGTTATCGACGAAGCCTACGCAGTC 417
                                                                         211 Gregoredrecocceccecaerrorececcecceraegrecocceccereaegreaecaae
                                                                                                           301 TTGCTGGTGAACTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAA 360
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72; Conserv
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Similarity 49.7%;
                                                                                                                                                  ATGCCGCCCCTACTACGGCGGAGGCCCTGCGCGCGCCACCGGCGGCGGCGGCGCCCCT 210
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AAGGCCATCAGCCTCTCCGACGGCGACTTCACCGTCACCGACGCCAACGGCGCCGTC 327
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Pred. No. 0.19;
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GENERAL INFORMATION:

Sequence 983, Application US/10100683

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US-10-100-683-983
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LENGTH: 3173
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Best Local Similarity
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PRIOR FILING DATE: 1997-03-07
PRIOR APPLICATION NUMBER: US 60/043,576
PRIOR FILING DATE: 1997-04-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/10/100,683
CURRENT FILING DATE: 2002-03-19
                                                                                                                                                                                                                                                     PRIOR FILING DATE: 1997-03-07
PRIOR APPLICATION NUMBER: US 60/043,576
PRIOR FILING DATE: 1997-04-11
PRIOR APPLICATION NUMBER: US 60/047,601
PRIOR FILING DATE: 1997-05-23
PRIOR APPLICATION NUMBER: US 60/056,845
PRIOR FILING DATE: 1998-05-63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Remaining Prior Application data removed - NUMBER OF SEQ ID NOS: 13468
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                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION NUMBER: US/10/100,683
CURRENT FILING DATE: 2002-03-19
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILE REFERENCE: PS900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Rosen, et al.
TITLE OF INVENTION: Human Secreted Proteins
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US 60/047,601 FILING DATE: 1997-05-23
                                APPLICATION NUMBER: US 60/056,664
PILING DATE: 1997-08-22
APPLICATION NUMBER: US 60/043,314
FILING DATE: 1997-04-11
APPLICATION NUMBER: US 60/047,632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE: 1997-08-22
APPLICATION NUMBER: US 60/043,314
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                                                                                                                                             FILING DATE: 1997-04-11
APPLICATION NUMBER: US 60/047,599
FILING DATE: 1997-05-23
                                                                                                                                                                                                              FILING DATE: 1997-08-22
APPLICATION NUMBER: US 60/043,580
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US 60/047,632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US 60/056,664
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NUMBER: US 60/056,892
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75.4%;
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US-10-767-701-744/c
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; OTHER INFORMATION: Clone ID: SORBI-28MAY03-CLUS92927_1
US-10-767-701-7545
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GENERAL INFORMATION:
APPLICANT: KOVALIC, David K.
APPLICANT: Cao, Yihua
APPLICANT: Cao, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated i
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(55358)
FILE REFERENCE: 38-21(55358)
CURRENT APPLICATION UNMEER: US/10/767,701
CURRENT APPLICATION TO AND ADDITION OF SEQ ID NOS: 63128
SEQ ID NO 7545
LENGTH: 666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Remaining Prior Application data removed - See File Wrapper or PALM. NUMBER OF SEQ ID NOS: 13468
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 11511
LENGTH: 7071
                                                                                                                                                                                                                                                                                   Sequence 744, Application US/10767701
GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
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                                                                              SEQ ID NO 744
LENGTH: 561
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                                                                                                                 APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(53535)B
CURRENT FILLING DATE: 2004-01-29
CURRENT FILLING DATE: 2004-01-29
RUMBER OF SEQ ID NOS: 63128
                                                                                                                                                                                                                                              APPLICANT: Kovalic, Dav
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: Sorghum bicolor
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                                     ORGANISM: Sorghum bicolor
OTHER INFORMATION: Clone ID: SORBI-28MAY03-CLUS124346_1
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Local Similarity 57.4%;
es 62; Conservative
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                                                               DNA
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43; Conserv
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ilarity 75.4%;
Conservative
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Pred. No. 1.
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RESULT 9
US-10-765-790-62
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US-60-548-091-5686
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US-10-765-790-62
Sequence 568, Application US/60548091
GENERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENERIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: STROKE, METHODS OF DETECTION AND USES THEREOF
FILE REFERENCE: CL001506
CURRENT APPLICATION NUMBER: US/60/548,091
CURRENT FILING DATE: 2004-02-27
NUMBER OF SEQ ID NOS: 24433
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 5686
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Best Local Similarity
Matches 67; Conserv
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TITLE OF INVENTION: Identification and Verification of Methylation Marker Sequences
FILE REFERENCE: 1657/2035
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 23
TYPE: DNA
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Gannon, Allison
Harvey, Jeanne
Lechner, John F.
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Pred. No. 3.8;
0; Mismatches
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US-09-804-291A-500
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Best Local Similarity
Matches 68; Conserv
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                       TGCTGG 634
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; SOFTWARE: PatentIn Ver. 3
; SEQ ID NO 500
; LENGTH: 930
; TYPE: DNA
; ORGANISM: Homo sapiens
US-09-804-291A-500
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; TYPE: DNA
; ORGANISM: Homo s
US-60-548-091-5686
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CURRENT APPLICATION NUMBER: US/09/804,291A
CURRENT FILING DATE: 2001-03-13
PRIOR APPLICATION NUMBER: 60/188,914
PRIOR FILING DATE: 2000-03-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION NUMBER: 60/192,033
PRIOR FILING DATE: 2000-03-24
PRIOR APPLICATION NUMBER: 60/198,474
PRIOR FILING DATE: 2000-04-14
PRIOR PRIOR PRIOR ON NUMBER: 60/199,335
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PRIOR APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: HUMAN OLFACTORY RECEPTORS AND GENES ENCODING SAME
                                                                                                                                                                                                                       Match 4.4%;
Local Similarity 54.0%;
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FILING DATE: 2000-06-23
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: 2000-08-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: 60/226,534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: 2000-05-26
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                                       569 CAAGCCTCTTAGAACTGATGGTCATCCTCTTGGCCGTTGTGACTCTCATGGTTACTCTGG
                                                                                                                                                          467 AAATAGCGTTTCACTCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGT 526
CTTTGG 592
                                                                         ACATTCTGAATCACTATTACTGTGACTATGGGCCTCTCGTGGAGCTTGCCTGCTCAGACA 568
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2001-02-07
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51.9%;
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Pred. No. 3.9;
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US-60-548-091-19934
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US-60-548-091-19938
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US-60-548-091-19938
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GENERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: STROKE, METHODS OF DETECTION AND USES THEREOF
FILE REFERENCE: CLOO1506
CURRENT APPLICATION NUMBER: US/60/548,091
CURRENT FILING DATE: 2004-02-27
NUMBER OF SEQ ID NOS: 24433
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 19934
LENGTH: 201
                                                                                                                                                                                                                                                                                                                                                            Sequence 19938, Application US/60548091
GENERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: STROKE, METHODS OF DETECTION AND USES THEREOF
FILE REFERENCE: CL001506
CURRENT APPLICATION NUMBER: US/60/548,091
CURRENT APPLICATION WINDER: US/60/548,091
CURRENT FILING DATE: 2004-02-27
NUMBER OF SEQ ID NOS: 24433
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 19938
LENGTH: 201
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Best Local :
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Best Local
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169
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1 Similarity 52.7%;
69; Conservative
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Pred. No. 0.67;
1; Mismatches
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RESULT 14 US-10-767-701-9054

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; OTHER INFORMATION: Clone ID: SORBI-28MAY03-CLUS73927_1
US-10-767-701-9054
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US-10-767-701-23189
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Best Local S
Matches 67
                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 23189, Application US/10767701

GENERAL INFORMATION:
APPLICANT: KOVALIC, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(53335)8
CURRENT APPLICATION UNDERS: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 23189
LENGTH: 519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Zhou, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
TITLE REFERENCE: 38-21(5355)B
FILE REFERENCE: 38-21(5355)B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 9054
LENGTH: 1028
TYPE: NNA
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                                                                                                                                                                                                                                     Query Match 4.3%;
Best Local Similarity 52.6%;
Matches 71; Conservative
                                                                                                                                                                                                                                                                                                                                                            TYPE: DNA
ORGANISM: Sorghum bicolor
FEATURE:
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                                      TGCTGGTGAACTTCC 316
                                                                                CCCTCGTCGCCGCGCCCAAGGCCGCGCCCCGCGCTCTTCGCCCCCGGGGCGCCCCAGGC 189
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  CGTCGCTCAAGTACC 204
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ilarity 54.0%;
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Search completed: April 17, 2004, 20:12:58 Job time: 88.0151 secs

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Maximum Match 100%
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AQ936633
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AL054013 Drosophil
                                                     Description
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KEYWORDS
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AQ936633
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Karolinska Institute
17177 Stockholm, Sweden
Tel: +46-8-728-6372
Fax: +46-8-337983
                                                      20175728
10710430
Contact: Podowski RM
                                                                                                                                                                                                                                                         AQ936633 473 bp DNA linear GSS 23-AUG-2000
HSJ41-905 Human NotI clones Homo sapiens genomic, genomic survey
                                                                                        NotI clones in the analysis of the human genome Nucleic Acids Res. 28 (7), 1635-1639 (2000)
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ALIOS3013 DROSOPHII
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BX382084 BX382084
BG845919 1024011F0
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BH80553 91008061A1
ALIO6545 DROSOPHII
BE013856 125354 MA
ALIO59804 DROSOPHII
BY525053 BJ525053
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CK358991 OGJAUJSTH
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CK349984 OGVHO72TV
BK3644270 OGCBX45TC
CK449978 OGVHO72TV
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CK449978 OGVHO72TV
CK654373 OGVEL12TV
CK654373 OGVEL12TV
CK654373 OGVEL12TV
CK6543765 UI-R-C3-t
BX424477 BX424977
ALI291892 LP07146.5
CAL109167 SCSGHR106
CF850119 PBM013XA
CKC337836 OGTAF14TV
BKG85128 1024041H0
CKG37146 OGZAOOSTV
BKG85128 1024001X9
CKG37161 OGZAOOSTV
AL078850 DROSOPHII
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1 (bases 1 to 1201)

Li,W.B., Gruber,C., Jessee,J. and Polayes,D.

Full-length cDNA libraries and normalization

Unpublished (2001)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Genoscope - Centre National de Sequencage
BP 191 91006 EVRY cedex - France
Email: seqref@genoscope.cms.fr Meb: www.genoscope.cms.fr
Library was constructed by Life Technologies, a division of
Invitrogen. Contact: Feng Liang Email: fliang@lifetech.com |
http://fulllength.invitrogen.com/ InVitroden Corporation 1600
Faraday Avenue Genoscope sequence ID: CSODIO15CA02NP1.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
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BX356664.1 GI:30378083
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47; Conserv
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/mol_type="genomic DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                           /organism="Homo sapiens"
/mol_type="mRNA"
/mol_type="mRNA"
/db_xref="reaxon:9606"
/clone="CSODI015YB03"
/tissuf-taxon:9606"
/clone="CSODI015YB03"
/clone="CSODI015YB03"
/clone lib="Homo sapiens PLACENTA COT 25-NORMALIZED"
/note="1st strand cDNA was primer. Five primer cDNA was primer. Five prime and enriched, double-strand cDNA was digested with Not I and cloned into the Not I and Ecor V sites of the pcMvSPORT 6 vector. Library was normalized."
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Fax: 301-838-0208
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Zea mays
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; PACCAD
clade; Panicoideae; Andropogoneae; Zea.

[ (bases 1 to 743)
whitelaw,C.A., Quackenbush,J., Van Aken,S., Utterback,T.,
Resnick,A., Fraser,C.M., Budiman,M.A., Bedell,J.A., Rohlfing,T.,
Citek,R.W., Numberg,A., Robbins,D. and Lakey,N.
Consortium for Maize Genomics
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Unpublished (2002)
Other_GSSs: OGUAX55TV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9712 Medical Center Drive,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Contact: Cathy Whitelaw
                                                                                                                                                                                                                                                                                                                                                                                     Class: sheared ends.
                                                                                                                                                                                                                                                                                                                                                                                                                            Email: whitelaw@tigr.org
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTATGCGTTTTCATTCCCGCTGCATGTGGTCAAAAACCCCATTGCCCGTTTCTATTCGGT
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/clone="znv.BMA0397J14"
/clone_1ib="ZM_0.7_1.5 KB"
/note="Vector: pBCSK-; Site_1:
methylation filtered genomic DN
                                                                                                                                                                                                                                                                                /organism="Zea mays"
/mol_type="genomic Di
/strain="B73"
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                                                                                                   53.6%;
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Best Local Similarity
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Bukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;

Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;

Ephydroidea; Drosophilidae; Drosophila.

[ bases 1 to 787)
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AL054013.1 GI:4935590
GSS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Direct Submission
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                                                                                                                                        AGGTCAGGCCCTATTTGCGGCGCGCTGCTGATCTTCTTGGGTCTGTTGA 718
                                                                                                                                                                                                                                                                                         CTACTTCGTCCTTTCSTCTTTMGTTGTAAMKWGKWWCTTGGAATCCKCTKYAGARARAAC 275
                                                                                                                                                                                                                                                                                                                  TAATTTCGCCATATGGTTATATCGGATTTTTTTTTATTGGTCCGCTGA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /mol_type="genomic DNA
/db_xref="taxon:7227"
/clone="BACR20K04"
/clone lib="RPCI-98"
/note="end : T7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              http://bacpac.med.buffalo.edu/drosophila_bac.htm
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /organism="Drosophila melanogaster"
/mol_type="genomic DNA"
                                                                                                                                                                                                                                                                                                                                                                                                          45.5%;
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Pred. No. 14;
15; Mismatches
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Email: seqref@genoscope.cns.fr, Web: www.genoscope.cns.fr
Library was constructed by Life Technologies, a division of
Invitrogen. Contact: Feng Liang Email: fliang@lifetech.com l
http://fulllength.invitrogen.com/ Invitroden Corporation 1600
Faraday Avenue Genoscope sequence ID: CSODIO72CCO3NP1.
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Genoscope - Centre National de Se
BP 191 91006 EVRY cedex - France
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Li,W.B., Gruber,C., Jessee,J. and Polayes,D. Full-length cDNA libraries and normalization Unpublished (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAAACCTCCC 118
     AAATTAAGGGCCTCGAGTTCGCCCTTTGCTCTCTTTGTCACGCTGACTTTGGATTCCT 598
                                                                                                                                                                                                                                                                                         AAAACCCCATTGCCCGTTTCTATTCGGTTTTCGCGCGCTTATCGACGAAGCCTACGCAGTCA 418
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                                                                                                                                                                                                                                                                                                                                                                                     CATTGCTGGTGAACTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCA 358
                                                                                                                                                                                                                                                                                                                                                                                                                                      MCCMCKKKKKMBKGKMVCMCKMMKNKKCMCMKBMMCKMCMKMCMBKKNMMMMKMKM 859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MMINICNCNKKKONKTIMMINMMINININKKONNINIKONNININININININIKKOKKMSKCKKKKMCCK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KKKKKKKKUNNININININININININIKMININIKKOKKTIKKKKKONIAKKONTINIKAMINIKONINININ 739
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                                                                                               ACTCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTG 538
                                                                                                                                                VKKVMCMCDBKMCMCKKKBMKKVCCKKMCMMMMMCAMKVMMMBAMMMMBAMVVMMMMN 1039
                                                                                                                                                                                         CTGCGGCCAGGCCGGCGGGTGGCGACTTATCTCAATGCAAATAGCGTTTC 478
                                                                                                                                                                                                                                             MMMCKKBMMCKKNKMMNKMMVKKKKKAMMNBKČVMKMKMKMCCKKVMMBKMCAKKKKMCMC 979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAATGCTGGTCATCGCCCCCCTGTGGGCGCGCAGCGCCCCTGGGCGCCATCGCGCTCACCA 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sapiens (human)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /tissue type="piacenta COT 25-NORMALIZED"
/clone_Tib="Homo sapiens placenta COT 25-NORMALIZED"
/note="1st strand cDNA was primed with a NotI-oligo(dT)
primer. Five prime end enriched, double-strand cDNA was
digested with Not I and cloned into the Not I and EcoR v
sites of the pCMVSPORT 6 vector. Library was normalized.
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/mol_type="mRNA"
/db_xref="taxon:9606"
/clone="CSODI072XF05"
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Pred. No. 19;
210; Mismatches
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DEFINITION

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ACCESSION VERSION

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SOURCE ORGANISM

REFERENCE AUTHORS TITLE

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Matches 37
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AL0533013.1 GI:4934461
GSS.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
1 (Dases 1 to 925)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Drosophila melanogaster genome survey sequence TET3 end of BAC #BACR19D16 of RPCI-98 library from Drosophila melanogaster (fruit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CNS0091P
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Drosophila melanogaster (fruit fly)
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
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                                                                                                                                                                                                                                                                                                                                                                             GGCAGCCCACTGTTTTCCGGCCTGATTTTCGCGGGCTCCACCGAAATGCTGGTCATCGC 254
                                                                      TTTCTATTCGGTTTTCGCGCTTATCGACGAAGCCTACGCAGTCACTGCGGCCAGGCCCGC 434
                                                                                                                                                                                                                           SSSSSTSTSSSSVSSGSKSSTBSSGSBSSSGSSSSSSTSSBBSCTSTSSSSSSSYSSST 757
                                                                                                                                                                                                                                                                                                                          SSSSSTSSSTSSSTSKSSSSSSSSSSSSTTSKSTSASGSGSWSAGGGSGSTGSTSS
                        YBMBCYTSTSCGGSSSSSGKGGVTKCGCGGCGSSSTNGMBGTSSACSSSSSSSSSSSSSSSSS
                                                                                                                         CSCCTCCCSYSYSSSTSSSSSTSWGSTSGSSSSSVGTSSSSDSTSTCCSCCCYMCTCCST 817
                                                                                                                                                                        CCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAAAAACCCCCATTGCCCG 374
                                                                                                                                                                                                                                                                      CCTCGTTGTGGGCGCAGCGCCCTGGGCGCCATCGCGCTCACCACATTGCTGGTGAACTT 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (bases 1 to 925)
                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative 117;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Drosophila melanogaster"
/mol_type="genomic_DNA"
/db_xref="taxon:7227"
/clone="baCR19D16"
/clone="BRCI-98"
/clone lib="RPCI-98"
/note="end : TET3"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       14.2%;
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Pred. No. 19;
.7; Mismatches 106;
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nce TET3 end of BAC #
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BX361080
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RESULT 8
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Best Local
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                                                                         1125 CCCKKKKKBCKKKKKKKKCCCKKK 1147
                                                                                                                                                                                                                                                                               1005 КИДИМФФФФМКККОФНКФМКККККККИММКККИММКККИМНИКИМИККККОФФФИИКК 1064
                                                                                                                       319 CACGTATTCTATGCGTTTTCATT 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               435 AGGCTGGTCGGCGTGGCGAC
                                                                                                                                                                                                                           259 GTTGTGGGCGCAGCGCCCTGGGCGCCATCGCGCTCACCACATTGCTGGTGAACTTCCGC 318
                                                                                                                                                                                                                                                                                                                          199 GCCCCACTGTTTTCCGGCCTGATTTTCGCGGGCTCCACCGAAATGCTGGTCATCGCCCTC 258
                                                                                                                                                                                                                                                                                                                                                                                   139 TACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATACGGCTACGAATGGTGGGCA 198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    885 KKKKKDAAKKKKWÁKKKKKAAAAKKKKKKKKKKKKWMMMHKKKMKKMMKKKKKDMMKKM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      825 MDDMMMMMMMMMMDXKKKONDKKOMMKKAKKKKKKKKKKKKDKDKDKKOMMKKKKAMKKAMAKKK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   79 TATCGGCGCTACGAAATCGCGCAAGGTCTAAAAACCTCCCTTGCTGCAGGTTTGGGCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    19 ATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTGGAACCAGATGATAAAGGT 78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Genoscope - Centre National de Sequencage
BP 191006 EVRY cedex - France
Email: seqref@genoscope.cns.fr, Web: www.genoscope.cns.fr
Library was constructed by Life Technologies, a division of
Invitrogen. Contact: Feng Liang Email: fliang@lifetech.com U
http://fulllength.invitrogen.com/ InVitroGen Corporation 1600
Faraday Avenue Genoscope sequence ID: CSODIO79DG08NP1.
Location/Qualifiers
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BX361080 Homo sapiens PLACENTA COT 25-NORMALIZED Homo sapiens cDNA
clone CS0D1079YN16 3-PRIME, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BX361080.1 GI:30374504
EST.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 1201)
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                                                                                                                                                                        KKKKKKKCCCCBKBCCCCKYKCCKBKKYCCYKCKKKKKCKKKYCCCBCCCKKKCBCYCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative 147;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /tissue type="PLACENTA COT 25-NORMALIZED" /clone Tib="Homo sapiens PLACENTA COT 25-NORMALIZED" /note="Ist strand cDNA was primed with a NotI-oligo(dT) primer. Five prime end enriched, double-strand cDNA was digested with Not I and cloned into the Not I and EcoR V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sites of the pCMVSPORT 6 vector. Library was normalized
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /mol_type="mRNA"
/db_xref="taxon:9606"
/clone="CSODI079YN16"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             organism="Homo sapiens"
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Pred. No. 28;
7; Mismatches
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                                                                                                                                                                                                                                                                                                       372
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                                    LB01712a.d_SP6.1 Leishmania major Friedlin BAC Library Leishmania major genomic clone LB01712a, genomic survey sequence.
BH87860
BH87860.1 GI:22133383
GSS.
                                                                                                                                                                                                                                                                                                                                                                                                                                    79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FORWARD: gta aaa cga cgg cca gtg
BACKWARD: gga aac agc tat gac cat g
Plate; 13 row: F column: 02
Seq primer: gta aaa cga cgg cca gtg.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Jantasuriyarat,C., Lu,G., Gowda,M., Hatfield,J., Zhou,B., Mazur,E., Kudrna,D., Dean,R., Soderlund,C., Wing,R. and Wang,G. Large-scale identification of ESTs involved in the interaction between rice and Magnaporthe grisea
Unpublished (2003)
Contact: Rod Wing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Oryza sativa (japonica cultivar-group)
Oryza sativa (japonica cultivar-group)
Oryza sativa (japonica cultivar-group)
Eukaryota, Viridiplantae, Streptophyta, Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales, Poaceae;
Ehrhartoideae; Oryzeae; Oryza.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tel: 520 626 3967
Fax: 520 621 9288
Email: http://genome.arizona.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Arizona Genomics Institute
University of Arizona
Biological Sciences West, 448A,
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835 bp mRNA linear EST 09-i
OSUNEc13F02.f OSUNEc Oryza sativa (japonica cultivar-group)
Cione OSUNEc13F02 5', mRNA sequence.
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  Leishmania major
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                       seishmania major
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                              CCGTTTCTATTCGGTTTTCGCGCTTATCGACGAAGCCTACGCAGTCACTGCGGC 425
                                                                                                                                                                                                                                                                                                                                                ATGCCGCCGGGTGTTCGACCGGATCGCGCACCCGACCTGCCGGCCTGGAACGCGCTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCCCTCGTTGTGGGCGCAGCGCCCTGGGGCGCCATCGCGCTCACCACATTGCTGGTGAA 311
                                                                                                                                                                                                                                                                                                                                                                                          CTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAAAACCCCATTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                    CGACCGCGTCCTCGGTGCCGCGCTCCTCGGCGTCTTCGCGCGCCTGCGGCAGGATCGCCTC 138
                                                                                                                                                                                                                                                             CTCCGCCTACGCGCGTCTTCGTGCCAGGGACGTGGCCTGCGCCACCTCTGCGGC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /clone lib="OSJNEC"
/note="Vector: pBluescript II KS +; Site_1: EcoRI;
/note="Vector: pBluescript II KS +; Site_1: EcoRI;
XhoI; 6 hrs after innoculation with Rice Blast (C9)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /tissue_type="Leaf"
/dev_stage="3 week"
/lab_host="DH108"
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הסו_יעpe="התאא"
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/db_xref="taxon:39947"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                clone="OSJNEc13F02"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EST 09-APR-2003
r-group) cDNA
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(C9240-1)"
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                                                  Homo sapiens (human)
M Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Verteb:
Mammalia; Butheria; Primates; Catarrhini; Homin
1 (bases 1 to 1108)
Li.w.B., Gruber,C., Jessee,J. and Polayes,D.
Full-length cDuA libraries and normalization
Unpublished (2001)
Contact: Genoscope
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               459 CCACTGGTCACTGTGGTCATCGTCTCCGTGGCCATCTCA 421
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83; Conserv
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Myler,P.J., Vogt,C., Munden,H., Robertson,L., Sisk,E.,
Fazelinia,G., Aggarwal,G., Nelson,S., Seyler,A., Worthey,E.,
Stuart,K. and Ragland,M.
Leishmania major Friedlin BAC End Sequences
                                                                                                                                                                                                                                                                                                                     BX382084 Homo sapiens PLACENTA COT 25-NORMALIZED Homo CS0DI074YC24 5-PRIME, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Email: mylerpj@sbri.org
Seq primer: SP6
Class: BAC ends.
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Other_GSSs: LB01712a.d_T7.1
Contact: Myler_PJ
                    Genoscope - Centre National de Sequencage
Bp 191 91006 EVRY cedex - France
                                                                                                                                                                                                                                                                                BX382084
BX382084.1 GI:30455015
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Fax: 206 284-0313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Seattle Biomedical Research Institute
4 Nickerson Street, Seatttle, WA 98109-1651,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Euglenozoa; Kinetoplastida; Trypanosomatidae;
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Email: segref@genoscope.cns.fr,
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/clone lib="Leishmania major Friedlin BAC Library"
/clone lib="Leishmania major Friedlin BAC Library"
/note="Vector: pCG270; Site 1: HindIII; Genomic DNA from
Leishmania major Friedlin in agarose blocks was partially
digested with HindIII, size selected, and ligated with
HindIII-digested pCG270 vector DNA. 10368 Clones were
picked and arrayed in 384- and 96-will plates. Library
construction and arraying was carried out by ResGen
Corporation and clones and filters are available from
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/clone="LB01712a"
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/mol_type="genomic DNA"
/strain="Friedlin"
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Web : www.genoscope.cns.fr
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EST 08-MAY-2003

sapiens cDNA

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                                                                                                                                                                                                                                                                                  BG845919 730 bp mRNA lin 1024011F06.x1 C. reinhardtii CC-1690, normaliz Chlamydomonas reinhardtii cDNA, mRNA sequence. BG845919 GI:14227103 BST. Chlamydomonas reinhardtii Chlamydomonas reinhardtii Chlamydomonas reinhardtii
                                                                            Grossman, A., Davies, J., Federspiel, N., Harris, E., Lefebvre, P., McDermott, J.P., Silflow, C., Stern, D. and Surzycki, R. Analyses of the Chlamydomonas reinhardtii Genome: A Model, Unicellular System for Analyzing Gene Function and Regulation Vascular Plants; project phase 2
Vascular Plants, project phase Unpublished (2000) Contact: Charles Hauser DCMB Box 91000
                                                                                                                                                                                                        Chlamydomonadaceae; Chlamydomonas
1 (bases 1 to 730)
                                                                                                                                                                                                                                                            Eukaryota; Viridiplantae; Chlorophyta; Chlorophyceae; Volvocales;
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/clone_Tib="Homo sapiens PLACENTA COT 25-NORMALIZED"
/clone="Ist strand cDNA was primed with a NotI-oligo(dT)
/note="Ist strand cDNA was primed with a NotI-oligo(dT)
primer. Five prime end enriched, double-strand cDNA was
digested with Not I and cloned into the Not I and EcoR V
sites of the pCMVSPORT 6 vector. Library was normalized."
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/db_xref="taxon:9606"
/clone="CSODI074YC24"
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Pred. No. 57;
5; Mismatches 189;
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CC-1690, normalized, Lambda Zap II
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                                                                                                                                                                                                                                                                                                                                                                               mRNA sequence.
BF101158
BF101158.1 GI:
NIH MGC http://mgc.nci.nih.gov/.

National Institutes of Health, Mammalian Gene Collection (MG Unpublished (1999)

Contact: Robert Strausberg, Ph.D.

Email: cgapbs-r@mail.nih.gov

Tissue Procurement: Gilbert Smith, Ph.D.

cDNA Library Preparation: Life Technologies, Inc.

cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LINL)

DNA Sequencing by: Incyte Genomics, Inc.

Clone distribution: MGC clone distribution information can found through the I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      96;
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Tel: 919 613 8159
Fax: 919 613 8177
                                                                                                                                                                                                                                                                                                                Mus musculus (house mouse)
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Mammalia; Eutheria; Rodentia;
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/srrain="CC-1690 wild type mt+ 21gr"
/srrain="CC-1690 wild type mt+ 21gr"
/clone_lib="C. reinhardtii CC-1690, normalized,
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                                                                                                                               Email: walbot@stanford.edu
Plate: 1008061 row: 27
                                                                                                                                                           Stanford University
855 California Ave, Palo Alto, CA 94304, USA
Tel: 650 723 2227
Fax: 650 725 8221
                                                                                                                                                                                                                                                          Maize genomic sequences found using engineered RescueMu transposon Unpublished (2001)
                                                                                                                                                                                                                                                                                                                         Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; PACCAD
clade; Panicoideae; Andropogoneae; Zea.
                                                                                                                                                                                                                                                                                                                                                                            Zea mays
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                                                                                              Class: transposon-tagged.
Location/Qualifiers
                                                                                                                                                                                                                               Department of Biological Sciences
                                                                                                                                                                                                                                            Contact: Walbot
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/note="Organ: mammary; Vector: pCMV-SPORT6; Site 1: Sall;
Site_2: Not1; Cloned unidirectionally. Primer: Oligo dT.
Library constructed by Life Technologies. Investigator
providing samples: Gilbert Smith, NIH"
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/tlssue_type="tumor, biopsy sample"
/dev_stage="10 months, virgin"
/lab_host="DH10B"
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strain="FVB/N"
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             /mol_type="genomic DNA"
/cultivar="mixed background
/db_xref="taxon:4577"
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tissue_type="leaf"
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- Web : www.genoscope.cns.fr)

Determination of this BAC-end sequence was carried out as part of a collaboration with the European Drosophila Genome Project (EDGP) - http://www.edgp.ebi.ac.uk - This Drosophila melanogaster BAC http://www.edgp.ebi.ac.uk - This Drosophila melanogaster BAC http://www.edgp.ebi.ac.uk - This Drosophila at CEPH (Centre library (Dros BAC) was made by Alain Billaud at CEPH (Centre d'Etude du Polymorphisme Humain) with funding provided by a MRC project grant. The DNA was prepared from embryos by Alain Bucheton and Genevieve Payan. It has been constructed in the vector
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Drosophila melanogaster (fruit fly)
Drosophila melanogaster
Drosophila melanogaster
Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Meoptera; Endopterygota; Diptera; Brachycera; Miscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
1 (bases 1 to 1201)
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Drosophila melanogaster genome survey sequence T7 end of BAC
BACN15K14 of DrosBAC library from Drosophila melanogaster (fruit
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//lab_nost="DH10B"
//clone_lib="1008 - RescueMu Grid I"
//clone_lib="1008 - RescueMu Grid I"
//clone_lib="1008 - RescueMu (engineered from note="Organ: leaf; Vector: RescueMu (engineered from pBlueScript backbone); Site_1: BamHI; Site_2: BglII;
RescueMu is a 4.9 kb, modified maize Mu transposon designed to allow plasmid rescue from total genomic DNA.
Mu elements insert preferentially into transcription units. For more information on RescueMu, go to the web site www.zmb.iastate.edu and follow the links for 'RescueMu.' Grid I was grown at Berkeley in 2001. DNA was extracted from leaf punches, double digested using BamHI and BglII, and ligated to form circular plasmids. DH10B cells were transformed and then screened on LB plates with ampicillin."
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/organism="Drosophila m/
/mcl_type="genomic DNA"
/db_xref="taxon:7227"
/clone="BACN15K14"
                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
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Pred. No. 55;
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/clone_lib="DrosBAC"

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REFERENCE
AUTHORS
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ORGANISM
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Butheria; Cetartiodactyla; Suina; Suidae; Sus.

1 (bess 1 to 539)
Fahrenkrug,S.C., Smith,T.P.L., Freking,B.A., Cho,J., White,J., Vallet,J., Wise,T., Rohrer,G.A., Pertea,G., Sultana,R., Quackenbush,J. and Keele,J.W.
Porcine gene discovery by normalized cDNA-library sequencing and EST cluster assembly
Mamm. Genome 13 (8), 475-478 (2002)
                                                                                                                                                                                                    Contact: Smith TPL USDA, ARS, US Meat Animal Research Center DSDA, ARS, US Meat Animal Research Center DSDA 166, Clay Center, NE 68933-0166, USA Tel: 402 762 4366

Tel: 402 762 4366

Fax: 402 762 4390

Email: smithpemail.marc.usda.gov

Email: smithpemail.marc.usda.gov

Single pass sequencing. Bases called and alt trimmed with phred v0.980904.e. Vector identified by cross_match with the -minscore and -minmatch 12 options.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sus scrofa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BE013856 539 bp mRNA linear
125354 MARC 1PIG Sus scrofa cDNA 5', mRNA sequence.
BE013856
BE013856.1 GI:8274843
                                                                                               FORWARD: AGGAPACASCTATGACCAT
BACKWARD: GTTTTCCCAGTCACGACG
Plate: 52 row: G column: 21
Seq primer: ATTTAGGTGACACTATAG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sus scrofa (pig)
                                                                                                                                                                                      PCR PRimers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative 131; Mismatches 153; Indels
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/note="end : T7"
organism="Sus scrofa"
/mol_type="mRNA"
/db_xref="taxon:9823"
                                                                             Location/Qualifiers
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20.4%; Pred. No. 87;
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'tissue_type="pooled'

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Query Match
Best Local S
Matches 75
325
                              331
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                                                                                                                                    445
                                                                                                                                                              211 TCCGGCCTGATTTTCGCGGGCTCCACCGAAATGCTGGTCATCGCCCTCGTTGTGGGCGCA 270
                                                                                                  271 GCGCCCCTGGGCGCCATCGCGCTCACCACATTGCTGGTGAACTTCCGCCACGTATTCTAT 330
                                                                                                                                                                                                        75;
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                                                                 CCGGCCCAGGGAAGCAGCCACCCCCCACCCTCCTGCAGACCCAGGGAGCGGCAGTCAAG 326
GTGTCTGCAAGCCCGCTGC
                              GCGTTTTCATTCCCGCTGC 349
                                                                                                                                   TCTGGCTGGGCTTGCCCAGGCGAGCGTGAGGGGTGTGTGAGGGCTGGTACAGAGATCA
                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                        /lab_host="DH10B"
/clone lib="MARC 1PIG"
/note="Vector: pCMV SPORT6; Site 1: NotI; Site 2: SalI;
/ibrary made from pooled tissue from day 11, 13, 15, 20, and 30 embryos."
                                                                                                                                                                                                                     4.9%;
                                                                                                                                                                                                      Score 36.6; DI
Pred. No. 67;
O; Mismatches
                                                                                                                                                                                                        0
307
                                                                                                                                                                                                                                         DB 10;
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                                                                                                                                                                                                        0
                                                                                                                                                                                                          Gaps
                                                                                                                                      386
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Search completed: April 17, 2004, 20:01:43 Job time: 2440.38 secs

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Title:
Perfect score:
Sequence:
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Maximum DB seq length: 200000000
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                                                                                                                                                                                                                                                                                                       Total number of hits satisfying chosen parameters:
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Gapop 10.0 ,
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1269
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                                                                                                                                                                                                                                                                                                                                           1586107 seqs, 282547505 residues
                                                                                                                                          A_Geneseq_29Jan04:*
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                   geneseqp1990s:*
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                                                                                                                                                                                                  Match
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score greater t and is derived is the number of results predicted by chance to have a ater than or equal to the score of the result being printed rived by analysis of the total score distribution.

SUMMARIES

22.4	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	œ	7	σ	ຫ	4	ω	8	₽	Result No.
112	112	114	141.5	148		٠	158.5		167	167	169	174.5	177.5	177.5	185.5	189.5	190	197	197.5	214	8	1265	1269	Score
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ABB55268	059	AAU64076	ADA34737	ABM72815	ADB08658	ADB08660	AAG81587	ABP40309	ABP28562	ABP30530	ABB47959	ABB54959	ABP81300	ABU00481	ADC95293	ADA33199	ADA35238	ABP57756	ABM69066	ABP66261	AAG93154		AAG90035	ID
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ALIGNMENTS

AAG90035;

26-SEP-2001

AAG90035 standard; protein; 251

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16-DEC-1999; 07-APR-2000; 03-AUG-2000; Coryneform bacterium; a organic acid synthesis. EP1108790-A2 Corynebacterium glutamicum C glutamicum protein fragment SEQ ID NO: 3789. 18-DEC-2000; 2000EP-00127688. 20-JUN-2001. 99JP-00377484. \ 2000JP-00159162. 2000JP-00280988. (first entry) amino acid synthesis; vitamin; saccharide;

(КУОМ) КУОМА НАККО КОБУО КК.

Nakagawa S, Tateishi N, Mizoguchi H, Ando S, Hayashi M, Senoh A, Ikeda M, Ozaki A; Ochiai K, Yokoi H;

N-PSDB; AAH65254. WPI; 2001-376931/40.

Novel polynucleotides derived from Coryneform bacteria, for identifying mutation point of a gene, measuring expression of a gene, analyzing expression profile or pattern of a gene and identifying homologous gene.

Claim 17; SEQ ID NO 3789; 246pp + Sequence Listing; English.

The present invention provides a number of nucleotide and protein sequences from the Coryneform bacterium Corynebacterium glutamicum. These are useful for identifying the mutation point of a gene derived from a mutant of coryneform bacterium, measuring expression amount and analysing the expression profile or expression pattern of a gene derived from Coryneform bacterium, and identifying a homologue of a gene derived from coryneform bacterium. Coryneform bacteriam are useful for producing amino acids, nucleic acids, vitamins, saccharides and organic acids, particularly L-lysine. The present sequence is a protein described in the

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This invention describes a novel isolated polynucleotide (I) containing at least one sequence that (i) is 70% identical with a sequence that encodes at least one of 251 amino acid (aa) (3) or 108 aa (5) polypeptides; (ii) encodes a polypeptide at least 70% identical with (3) or (5); (iii) is the complement of (i) or (ii), or (iv) contains at least
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    L-amino acid production; brnF; coryneform bacterium; leucine;
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                                                                                                                                                      Claim la;
                                                                                                                                                                                                                                New export
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                                                                                                                                                                                                New export genes from coryneform bacteria, useful for fermentative production of branched-chain amino acids
                                                                                                                                                                                                                                                                                                                                                       Kennerknecht N,
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DB; AAH21109, AAH21110.
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FORSCHUNGSZENTRUM JUELICH
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Pred. No. 3.3e-137;
                                                                                                                                                                                                                                                                                                                                                       Sahm H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         brnE; branched-chain amino acid;
isoleucine; valine; medicine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
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CC protein derived from (i)-(iii). The invention also describes (a) CC protein derived from sequences of 753 bg (2) or 324 bg (4); (b) CC coryneform microorganisms, especially Corynebacterium, transformed with CC one or more (I), where these are replicative DNA; (c) production of Dranched-chain L-aa by fermentation of coryneform bacteria in which the CC brnB and/or brnF genes (or equivalent sequences) are amplified, CC especially overexpressed; and (d) method for isolating the brnB and/or CC brnF genes. (I) is used for transformation of coryneform bacteria being CC used for fermentative production of branched-chain amino acids, specifically elecine, isolatcine and valine, which are useful in medicine CC and animal nutrition. (I) can also be used as source of primers and CC probes for isolation of related sequences. Transformation with (I) CC increases yield of branched-chain amino acids. This sequence represents CC the Corynebacterium glutamicum ATCC 14752 brnF protein described in the CCC method of the invention
                                                                                     Sequence 251 AA;
99.7%;
99.6%;
                                 Length
                                                                                                                                                                                                                                                                                              in medicine
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Query Match
Best Local Sim
Matches 250;
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50; Conservative
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                                                                                                                           NPIARFYSVFALIDEAYAVTAARPAGWSAWRLISMQIAFHSYWVFGGLTGVAIAELIPFE
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IRYFFLGKAAK 251
                                IRYFFLGKAAK 251
                                                              IKGLEFALCSLFVTLTLDSCRTKKQIPSLLLAGLSFTIALVVIPGQALFAALLIFLGLLT
                                                                                 | IKGLEFALCSLFVTLTLDSCRTKKQIPSLLLAGLSFTIALVVIPGQALFAALLIFLGLLT
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                                                                                                                                                                                                                                                                                                                      Score 1265; DB 4;
Pred. No. 9.4e-137;
1; Mismatches 0;
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RESULT 3
AAG93154
ID AAG9
16-DEC-1999;
07-APR-2000;
03-AUG-2000;
     Nakagawa
Tateishi
                                                                                                                     Coryneform bacterium; amino organic acid synthesis.
                                                                                                                                         C glutamicum
                                                                                                                                                       26-SEP-2001
                                                                                                                                                                    AAG93154;
                                                                                                                                                                                 AAG93154 standard;
                                                                 18-DEC-2000; 2000EP-00127688
                                                                                            EP1108790-A2
                                                                                                         Corynebacterium
                         (KYOW ) KYOWA HAKKO KOGYO
                                                                               20-JUN-2001.
      'nά
                                      99JP-00377484.
2000JP-00159162.
2000JP-00280988.
     Mizoguchi
Senoh A,
                                                                                                                                          protein
                                                                                                                                                       (first
                                                                                                         glutamicum.
                                                                                                                                                                                 protein;
                                                                                                                                                       entry)
                                                                                                                                          fragment
     . H, Ando
Ikeda M,
                          즛
                                                                                                                                                                                  237
                                                                                                                             acid
                                                                                                                                          SEQ
                                                                                                                                                                                  B
       S, Hayashi
Ozaki A;
                                                                                                                            synthesis; vitamin;
                                                                                                                                          ID NO:
                                                                                                                                           6908
             3
             Ochiai
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saccharide;

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Yokoi

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RESULT 4
ABP66261
ID ABP66261
AC ABP6
XX ABP6
XX ABP6
XX ABP6
XX ABP6
XX ABP6
XX Bifi
XX Iden

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sequences from the Coryneform bacterium Corynebacterium glitamicum. These are useful for identifying the mutation point of a gene derived from a mutant of coryneform bacterium, measuring expression amount and analysing the expression profile or expression pattern of a gene derived from coryneform bacterium, and identifying a homologue of a gene derived from coryneform bacterium. Coryneform bacteria are useful for producing amino acids, nucleic acids, vitamins, saccharides and organic acids, particularly L-lygine. The present sequence is a protein described in the exemplification of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from the European Patent Office
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 17; SEQ ID NO 6908; 246pp + Sequence Listing; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bifidobacterium longum NCC2705; Bifidobacterium; bacterial; antidiarrheic; antibacterial; inhibitor of Salmonella; detection; identification; lactic acid bacterium; diarrhoea; pathogenic bacteria; rotavirus; food composition; pharmaceutical composition.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bifidobacterium longum NCC2705 ORF amino acid sequence SEQ ID NO:1005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABP66261 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 237 AA;
      WPI; 2002-668397/72
                                                                                                                                 30-JAN-2001; 2001EP-00102050
                                                                                                                                                                                                30-JAN-2001; 2001EP-00102050
                                                                                                                                                                                                                                                                                                                                                                                                   Bifidobacterium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19-NOV-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 127
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            149
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           31 EIAQGLKTSLAAGIGMYPIGIAFGLLVIQYGYEWWAAPLFSGLIFAGSTEMLVIALV-VG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            α
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             87;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AWRLISMQIAFHSYMVFGGLTGVAIAELIFFEIKGLEFALCSLFVTLTLDSCRTKKQIFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PLFAVVLALVSGFVAPEQMLVIALTTYFLILLEVRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LLLAGISFTIALVVIPGOALFAALLIFLGLLTIRYFF 245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTRVLTVQILCQALWVIPGIIGALVGQVLPDDLKGMDFALTALFVVLAWEAFKNNKDYSL 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IGPFSA-AVAGFMVNFRHIFYGLTFPRHRIKSGAGRAYSTYALTDESYAIVSARPPGDIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAPLGAIALTTLLVNERHVFYAFSFPLHVVKNPIAREYSVFALIDEAYAVTAARPAG-WS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EIRGGIGETLTVGLGLIPLGLAFGLLMVQTGFAWWWTPIFSFVIYAGSMEFLAIGMVTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     profile or pattern of a gene and identifying
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          invention provides a number of nucleotide and protein
                                                                  PROD NESTLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                Longum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      33.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             46;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 428.5; DB 4;
Pred. No. 1.5e-40;
6; Mismatches 81;
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Novel polynucleotide comprising Bifidobacterium genome sequence useful a probe or primer for detecting and/or identifying Bifidobacterium long in a biological sample.
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Claim 3; SEQ ID NO 1005; 80pp; English

CC sequence of a Bifidobacterium genome selected from the nucleotide
CC sequences given in ABQB1842 and ABQB1843, or a sequence spiven in
CC least 90% identity or which hybridises with the sequence given in
CC ABQB1842 and ABQB1843. Also described is a polynucleotide (II) encoding a
CC in ABDB65258 to ABD66354 ligated in frame to a polynucleotide encoding a
CC activities, and can be used as an inhibitor of Salmonella. (I) (which is
CC aprobe) is useful for the detection and/or identification of
CC Bifidobacterium longum in a biological sample. A carrier containing the
CC lactic acid bacterium Bifidobacterium longum NCC2705 (CNCM I-2618) can be
CC used for preventing and/or treating diarrhoes brought about by pathogenic
CC bacteria and/or rotavirus. The carrier is a food composition selected
CC products, ice-creams, fermented creal based products, milk based
CC supplement, wet oral supplement, dry tube feeding or wet tube feeding.
CC (I) is useful in DNA arrays or chips to carry out analysis of the
CC expression of the Bifidobacterium gene. ABQB1844 to ABQB1850 represent
CC Ensting from the present invention but not mentioned further within the
CC specification. N.B. The sequence data for this patent is not represented
CC in the printed specification but is based on sequence information
CC supplied by the European Patent Office The present invention describes a polynucleotide (I) comprising

Sequence 338 AA;

Query Match

Length 338

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270
                                                                                                                                                 103
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                                                                                                                                                                                                           44 LGMYPIGIAFGLLVIQYGYEWWAAPLFSGLIFAGSTEMLVIALVVGA-APLGAIALTTLL
                                                                                                                                                                                                                                        64;
                                                                                                                                                                                                                                                      Similarity
                            LAGLSFTIALVVIPG-----QALFAALLIFLGL
                                                                                    LISMQIAFHSYWVFGGLTGVAIAELIPFEIKGLEFALCSLFVTLTLDSCRTKKQIPSL-L
VIGVLTSLACLLIFGANDFMIPSMIAMLILFVAL
                                                        YFWVTLCNQLYWVTGATLGGLIGAHLPFNTDGLDFVLTALFLVIFLDQWLDGKHRERLSA
                                                                                                                   VNARHLFYGLSM-----LGKFKGLGWKRPYLIFGMCDETFAINSTAKIPAGIDRGWF
                                                                                                                                              VNFRHVFYAFSFPLHVVKNPIARF------YSVFALIDEAYAV--TAARPAGWS-AWR
                                                                                                                                                                              LGFLFLGASYGILMGTKGFSFVWPMCMSAFIFAGSMEFVTVNLLLSAFNPLAGF-LLALM
                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                    16.9%;
                                                                                                                                                                                                                                         37;
                                                                                                                                                                                                                                      Score 214; DB
Pred. No. 1.1e
37; Mismatches
                                                                                                                                                                                                                                      DB 5; I
1.1e-15;
hes 85;
303
                            238
                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                        Gaps
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ABM69066 standard;
protein;
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8

20-NOV-2003 (first entry

Photorhabdus luminescens protein sequence #2163

ARMSOLT 5
ARMSOLS 2
ARMSOLS ARMS
XX ARMS
AC ARMS
XX ARMS
DT 20-N
XX Phot
XX Phot
XX Anti
XW Anti
XW dete
XW anti
XW whoo
XX Phot Antibacterial; fungicide; insecticide; polymorphism; genetic detection; food; gene expression; plant; animal; microorganis antibiotic; biopesticide; virulence factor; disease model; plantibiotic; whooping

Photorhabdus luminescens

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Matches 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to the isolation of genes and their encoded proteins from Photorhabdus luminescens. The isolated sequences are sources of probes and primers for detecting the genome of P. luminescens and related species; to study polymorphisms; for gene analysis and for detection/amplification of the genes. Antibodies (Ab) raised against the polypeptides encoded by the genes are used for detection/identification of P. luminescens, e.g. in foods. The genes, proteins, Ab and cells that carry a gene-containing vector are used to select compounds that modulate, regulate, induce or inhibit expression of the genes in plants, animals or microorganisms other than P. luminescens and are able to alter response or sensitivity to toxins and antibiotics produced by P. luminescens. Cells transformed to express the genes are useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                 recombinant production of the proteins, particularly toxins and antibacterials useful as insecticides, bactericides and fungicides. The genes, proteins, vectors containing the genes and Ab are also useful therapeutically (to treat microbial infection by bacteria or fungi that are sensitive to P. luminescens-encoded toxins or antibiotics) and as piopesticides. Other uses of the genes and the proteins are as virulence factors and for identifying targets of human diseases for which P. luminescens is a model (particularly plague and whooping cough). This sequence represents one of the isolated P. luminescens proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Genomic sequence of Photorhabdus luminescens and useful e.g. as therapeutic antimicrobials and agr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2003-148459/14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Duchaud E,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    07-FEB-2001; 2001FR-00001659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      07-FEB-2002; 2002WO-IB003040
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                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                       122
242
                               231
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CNRS CENT NA
                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ
                                                                                                                                                                                                                                         FSGLIFAGSTEMLVIALVVGAAPLGAIALTTLLVNFRHVFYAFSFPLHVVKNPIARFYSV 129
                                                                                                                                                                                                                                                                                                                                                                                                                     261
                                                                                                                                                                      ---FALIDEAYAVTAAR----PAGWSAWRLISMQIAFHSYW----VFGGLTGVAIAELIP
                                                                                                                                                                                                                                                                              SMPVSDTSSPLTS-----KKSSFTEGIIDSLPIVIGYIPVAFAFGLNAVKLGFNPMEAIF
                                                                                                                                                                                                                                                                                                              SLEVSPSKAALEPDDKGYRRYEIAQGLKTSLAAGLGMYPIGIAFGLLVIQYGYEWWAAPL 69
                                                                    AIEAAMIFMLPALFLSFLLASCRKQNSYCVATALTGALLGITFFSIPVAILAGIVGGCIA
                                                                                                                                       IWAFGLTDEVFAAATAKLIKNHRSWSENWMVAIAICSWLAWGAGTAAGAFLGNGYLESYP
                                                                                                                                                                                                           FSCIIYAGASQFVITALLSAGTSLWISALTIMAMDVRHILYGPSL-RHRIKDKLTEKKTV
                                                                                                    FBIKGLEFALCSLFVTLTLDSCRTKKQ-----IPSLLLAGLSFTIALVVIPG--QALFA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ņ
                                                                                                                                                                                                                                                                                                                                               Conservative
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244
                                   233
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                                                                                                                                                                                                                                                                                                                                                                  15.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RECH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Glaser P,
                                                                                                                                                                                                                                                                                                                                                 44;
                                                                                                                                                                                                                                                                                                                                                                  Score 197.5; DB 6
Pred. No. 6.2e-14;
                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Frangeul L,
                                                                                                                                                                                                                                                                                                                                                                                DB 6;
                                                                                                                                                                                                                                                                                                                                                 110;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             and encoded polypeptides, agricultural pesticides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kunst F,
                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Danchin A;
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                                                                                                                                                                                                             121
                                                                                                         230
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RESULT 6 ABP57756

RESULT 7
ADA35238
ID ADA3
XX

ADA35238 standard; protein;

266 AA

134 145 76

93

201

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UX22XEX8X8X8XEXEXEREEEEXEXEXEEEEXEEEEX
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Best Local S
Matches 68
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26-FEB-2001;
28-JUN-2001;
                                                                                                                                                                                                                                                                                                                      The invention relates to a novel L-amino acid producing bacterium of genus Escherichia, modified to enhance L-amino acid production by enhancing the activities of a protein. The novel bacterium is useful for producing L-amino acid e.g. L-Thr, L-Val, L-Pro, L-Leu, L-Met and L-Arg, by cultivating the bacterium in a culture medium and collecting L-amino acid to be produced and accumulated from the culture medium. The present sequence represents a protein of the invention which causes increased L-amino acid production in E. coli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                E. coli L-amino acid producing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Novel L-amino acid producing Escherichia bacterium, is modified enhance L-amino acid production by enhancing the activities of propagation of making bacterium to have enhanced resistance to L-amino acid production by enhanced resistance to L-amino acid production because (1 - 1)^{-1}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EP1239041-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Escherichia coli.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   L-amino acid; E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            29-JAN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABP57756 standard; protein; 245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-PSDB; ABV75656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              13-FEB-2002; 2002EP-00003335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           11-SEP-2002.
                                                                                                                                                                                                                                                                                            Sequence 245
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Page 23; 33pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Tabolina
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   13-FEB-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (AJIN )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2002-699856/76.
                                                        135
                                                                                     146
                            202
                                                                                                                 77
                                                                                                                                            94 GAIALTTLLVNFRHVFYAFSFPLHVV----KNPIARFYSVFALIDBAYAVTAAR----PA
                                                                                                                                                                            17
                                                                                                                                                                                                     34 QGLKTSLAAGLGMYPIGIAFGLLVIQYGYEWWAAPLFSGLIFAGSTEMLVIALVVGAAPL
                                                                                                                                                                                                                                       68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AJINOMOTO CO
                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ΕA,
                                                        RWSENWMIGIAFSSWSSWVFGTVIGAFSGSGLLQGYPAVEAALGFMLPALFMSFLLASFQ
                                                                                  GWSAWRLISMQIAFHSYWVF----GGLTGVAIAELIPFEIKGLEFALCSLFVTLTLDSCR
                                                                                                                 WIAALTVMAMDVRHVLYGPSLRSRIIQRLQKSKTALW--AFGLTDEVFAAATAKLVRNNR
                                                                                                                                                                          EGCKDSLPIVISYIPVAFAFGLNATRLGFSPLESVFFSCIIYAGASQFVITAMLAAGSSL
                            TKKQIPSILLAGLSFTIALV-VIPGQALFA---ALL--IFLGLLT--IRYFFLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; 2001RU-00103865.
; 2001RU-00104998.
; 2001RU-00104999.
; 2001RU-00117632.
; 2001RU-00117633.
                                                                                                                                                                                                                                     15.5%;
ilarity 29.1%;
Conservative 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                              A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Rybak KV,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   coli.
- SICVTAALVGALAGVTLFSIPVAILAGIVCGCLTALIQAFWQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Khourges
                                                                                                                                                                                                                                       41;
                                                                                                                                                                                                                                     Score 197; DB 5;
Pred. No. 6.5e-14;
11; Mismatches 95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ΞX,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Voroshilova EB,
                                                                                                                                                                                                                                                                Length 245;
                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ties of protein
to L-amino acids.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gusyatiner
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RESULT 8
ADA33199
ID ADA3
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AC ADA3
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DT 20-N
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Matches
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                                                                                                                                                                                                                                                                                                  The invention relates to isolated Acinetobacter baumannii nucleic acids. The A. baumannii nucleic acids and polypeptides are useful as reagents for diagnosing a bacterial disease, as components of antibacterial vaccines, as targets for antibacterial drugs, to detect the presence of A. baumannii and other Acinetobacter species in a sample, in screening compounds for the ability to interfere with the A. baumannii life cycle or to inhibit A. baumannii infection, and as biocontrol agents for plants. The present sequence represents the amino acid sequence of an A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13-MAY-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Acinetobacter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Acinetobacter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADA35238;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             04-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Acinetobacter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20-NOV-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          09-JUN-1998;
                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                        Example;
                                                                                                                                                                                                                                                                                                                                                                                                                    vaccines,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (GENO-) GENOME THERAPEUTICS
                                                                                                                                                                                                                                                                                             baumannii
                                     ADA33199
                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                                                                                                                                                   Acinetobacter baumanii proteins and nucleic acids, useful as reagents diagnosing a bacterial disease, as components of antibacterial cines, as targets for antibacterial drugs, or as biocontrol agents for
                                                                                                                                                                                                                                                                                                                                                                                                                                                         2003-576092/54.
)B; ADA31112.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tobacter baumannii; bacterial disease;
biocontrol agent.
                                                                                                                       152
                                                                                                                                         144
                                                                                   212
                                                                                                                                                             96
                                                                                                                                                                              94
                                                                                                                                                                                                 36
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                    l Similarity
62; Conser
                                                                                                                                                                             GAIALTTLLVNFRHVFYA-----FSFPLHVVKNPIARFYSVFALIDEAYA----VTAAR
                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID
                                                                                                                                                            WLTALTVIALDIRHVLYGPALYNLIPTKLNLKKTAV----WAWGLTDEVFASGMIQLSQR
                                                                                                                                                                                                QGAKDSQAIVLTYLÞVSFAFGVSASQFGFTFMEAFFLSCSMYAGASQFLVVÁLLASGSSI
                                                                                                                                                                                                                   QGLKTSLAAGLGMYPIGIAFGLLVIQYGYEWWAAPLFSGLIFAGSTEMLVIALVVGAAPL
                                                                                                                      RQQWSESWMLGLSLFSWMSWASGSLLGGLFADQVAHLPKFLQAALDFLLPALFLSFLLAA
                                                                                                                                         PAGWSAWRLISMQIAFHSYW----VFGGLTGVAIAELIPFEIKGLEFALCSLFVTLTLDS
                                                                                                                                                                                                                                                                           266 AA;
                                      standard;
                                                                                   FERKHS---
                                                                                                     CRTKKQIPSLLLAGLSFTIALVVIPGQALFAALLIFLGLLT-----IRYFFL
                                                                                                                                                                                                                                                                                            protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bush
                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  baumannii protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      baumannii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99US-00328352
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                                                                                                                                                                                                                                                                                                                                                                                        6525;
                                                                                  -LVVAVSLVVSALACYWINLSAA--İFIĞILSGILAGLFKYYVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      entry)
                                     protein;
                                                                                                                                                                                                                                              15.0%;
                                                                                                                                                                                                                                                                                                                                                                                        328pp; English.
                                                                                                                                                                                                                                      43;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORP
                                                                                                                                                                                                                                    Score 190; DB b; L
Pred. No. 4.6e-13;
Mismatches 98;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 antibacterial; vaccine;
                                                                                                                                                                                                                                                        Length 266;
                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                        30;
                                                                                      258
                                                                                                        246
                                                                                                                                                                                                                                       Gaps
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                                                                                                                                                                151
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                                                                                                                                                                                                                                                                                                           RESULT 9
ADC95293
ID ADC:
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AC ADC:
XX
AC ADC:
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AC O1--
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                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                          Example;
                                                                                                                                                                                                                                                                                                                                                                                                                                            plants.
                                                                                                                                                                                                                                                                                                                              baumannii
                                  01-JAN-2004
                                                                      ADC95293
                                                                                                                                                        172
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                                                                      standard;
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20-NOV-2003 ADA33199;

(first entry)

faecium

protein

sequence

SEQ

ij

(first entry)

protein;

255

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Query Match
Best Local Similarity
Matches 49; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to isolated Acinetobacter baumannii nucleic acids. The A. baumannii nucleic acids and polypeptides are useful as reagents for diagnosing a bacterial disease, as components of antibacterial vaccines, as targets for antibacterial drugs, to detect the presence of A. baumannii and other Acinetobacter species in a sample, in screening compounds for the ability to interfere with the A. baumannii life cycle or to inhibit A. baumannii infection, and as biocontrol agents for plants. The present sequence represents the amino acid sequence of an A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Acinetobacter baumannii protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2003-576092/54
N-PSDB; ADA29073.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  09-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Acinetobacter baumannii;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New Acinetobacter baumanii proteins and nucleic acids, useful as reagents for diagnosing a bacterial disease, as components of antibacterial vaccines, as targets for antibacterial drugs, or as biocontrol agents for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (GENO-) GENOME THERAPEUTICS CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            biocontrol
                                                                                                                                                                                                                                                          100 TLLVNFRHVFYAFSFPLHVVKNPIARFYSV-FALIDEAYAVTAARPAGWSAWRLISMQIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The present ii protein.
                                                                                                                                                                                                                                                                                                                LPLSISVIPWAILAGSMAVHAGLSFYKALAMSGIVFAGAAQLVSLSMVMEGASLLTIYVT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ ID NO 4486; 328pp; English.
                                                                                                                                                                                                              IFFLTAQHFIYALTLRNDISILFLSKRLTLGFLLTDELFAVSVPNEKKHPQY-LFGAGLC
                                                                                                                                                                                                                                                                                                                                                                    LAAGLGMYPIGIAFGLLVIQYGYEWWAAPLFSGLIFAGSTEMLVIALVVGAAPLGAIALT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             263 AA;
VLKFFHİEGAILISGLLGMFİAVI
                                                   TIALVVIPGQALFAALL-IFLGLL
                                                                                                            FYLFWVVFSLVGILLATALPNLLNYHLDFSIIAIFVAMIVPMCKGKPVMAGILMTCVSGF
                                                                                                                                                        FHSYMVFGGLTGVALAELIPFEIK-GLEFALCSLFVTLTLDSCRTKKQIPSLLLAGLS-F
                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              baumannii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    98US-0088701P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9905-00328352
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                                                                                                                                                                                                                                                                                                                                                                                                                                           14.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       bacterial disease;
                                                                                                                                                                                                                                                                                                                                                                                                                           54;
                                                                                                                                                                                                                                                                                                                                                                                                                     Score 189.5; DB 6;
Pred. No. 5.2e-13;
4; Mismatches 96;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        #360
                255
                                                              239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          antibacterial; vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 263;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to an isolated nucleic acid derived from CC Enterococcus faecium encoding an Enterococcus faecium polypeptide having come of 10 fully defined sequences given in the (or comprising 40 cc sequential nucleotides chosen from any of the nucleic acids, its CC complement or sequences hybridising to it). Also included are a cc recombinant vector comprising the nucleic acid operably linked to transcription regulatory element, a cell comprising the vector and a cc single-stranded probe comprising the nucleic acid. The nucleic acids are cc single-stranded probe comprising the nucleic acid. The nucleic acids are cc single-stranded is useful for diagnosing pathological conditions cresulting from E. faecium bacterial infection (e.g. urinary tract confection, bacteraemia, endocarditis, wounds and abdominal-pelvic confection) and for screening drugs such as agonists and antagonists. The cc concileic acid is useful for recombinant production of Candida albicans containing the nucleic acid are useful for preventing or conciles containing the nucleic acid are useful for preventing or consisting Enterococcus faecium infections. The present sequence represents
                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local S
Matches 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 1; SEQ ID NO 4920; 243pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New isolated nucleic acid derived from Enterococcus faecium encoding Enterococcus faecium polypeptide useful for detection, prevention and treatment of a pathological condition resulting from a bacterial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N-PSDB; ADC91639.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           02-JUL-1997;
14-MAY-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Enterococcus faecium
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 255 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2003-799836/75.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Doucette-Stamm LA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24-JUN-2003
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Vaccine; urinary tract infection; bacteraemia; endocarditis; wound; abdominal-pelvic infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 one if the disclosed E. faecium proteins.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (GENO-) GENOME THERAPEUTICS CORP.
                                                                                  184
                                                                                                                                                                 135 EAYAVTAARPAGWSAWRLISMQIAFH------SY--WVFGGLTGVAIAELIPFEIK-G
                                                                                                                                                                                                         71
                                                                                                                                                                                                                                                                                          15
                                                                                                                                                                                                                                                                                                                                16 SKAALEPDDKGYRRYEIAQGLKTSLAAGLGMYPIGIAFGLLVIQYGYEWWAAPLFSGLIF 75
                                                                                                                                                                                                                                                                                                                                                                        63;
                                                                                                                                                                                                                                                                                                                                                                                               Similarity
--LGLLTIRYFF 245
                        LDPAIVAMFIGLLYLQVISDRNTSKRL-QLILIGLTLILVYVGLIFIPSNLVIVVVTLIG 243
                                                                                                                                                                                                         AGSAQFITVSMLASHSPLLSIVFSTFLVNSRMILMSMTIAPYFKKNRLLQNLLIGTLLTD
                                                                                                                                                                                                                                             AGSTEMLVIALVVGAAPLGALALTTLLVNFRHVFYAFSFELHVVKNPIARFYSVFALI-D
                                                                                                                                                                                                                                                                                          AKGVLLLDEK----LDIKTAIKDTLPTVFGYIGIGLAFGIVGKAAGFHPLVVTLMSLLVY
                                                                                                                         ESFAL----GMNKLNYTGQKLNFRWMNTANWISYLTWVGSSLVGALLGNFITDPKKFG
                                                                                LEFALCSLEVTL----TLDSCRTKKQIPSLLLAGLSFT---IALVVIPGQALFAALLIF-
                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         97US-0051571P.
98US-0085598P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bush D;
                                                                                                                                                                                                                                                                                                                                                                      14.6%; Score 185.5; DB 7;
25.0%; Pred. No. 1.4e-12;
tive 51; Mismatches 105;
                                                                                                                                                                                                                                                                                                                                                                           Indels 33;
                                                                                                                                                                                                                                                                                                                                                                                                            Length 255;
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RESULT 10
ABU00481
ID ABU00
CC The invention relates to a protein comprising or having at least 50% CC identity to any of the 2469 amino acid sequences, identified in the Expecification (available on a computer readable format), or its fragment, CC expressed from 2469 of 2489 identified DNA coding regions from the CC Streptococcus pneumoniae type 4 strain genomic sequence appearing as CC ABS56454. Also included are an antibody which binds one of the proteins, CC composition), a kit comprising first and second primers, which are the CC nucleic acid cited above or fragments between nucleotides 8-100 of a sequence not defined in the specification, for amplifying a target sequence contained within a Streptococcus nucleic acid sequence, where CC the first primer is substantially complementary to the target sequence and the second primer is substantially complementary to the target sequence of the target sequence, and where the parts of the primers having the amplified, assay comprising contacting a test compound with the protein, and determining whether the test compound with the protein, and a Streptococcus pneumoniae bacterium, where one or more genes are conjugated by the proteins has been rendered inactive. The proteins, nucleic acid molecules, antibody and compositions are useful as medicaments for treating or preventing a disease or infection due to streptococcus for and a Streptococcus and antibiotics. The methods are useful for identifying immunodominant proteins. The present sequence is one of the 2469 proteins compositions are useful as medicaments for the sequence data for this patent did not format directly from WIPO cat fip.wipo.int/pub/published_pct_sequences. (Updated on 23-0CT-2003 to standardise Os field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New proteins and nucleic acid molecules from Streptococcus pneumoniae, useful as medicaments for treating or preventing a disease or infection due to streptococcus bacteria, such as pneumonia, sepsis, otitis media or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gene therapy; vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bacterial meningitis; pneumonia; sepsis; otitis media; ear infection; antiinflammatory; antibacterial; immunostimulant; auditory; respiratory;

    pneumoniae type 4 strain protein from coding region

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11-FEB-2003
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 1; SEQ ID NO 96; 56pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ear infection.
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INST GENOMIC RES
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(first entry)
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Best Local S
Matches 63
                                                                         The invention relates to isolated polynucleotides (ABZ72147-ABZ42522) of a Streptococcus pneumoniae genomic sequence, a fragment or degenerate variant of the polynucleotide or a nucleic acid sequence 95% identical to one of the polynucleotides. The S. pneumoniae polynucleotides and encoded polypeptides (ABP81299-ABP81674) are useful for treating or preventing S. pneumoniae infections or non-systemic diseases, e.g. otitis media, which are induced or exacerbated by S. pneumoniae. These are also useful for detecting S. pneumoniae in a biological sample or diagnosing S. pneumoniae in a subject. The polynucleotides have antibacterial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Streptococcus
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18-APR-2001;
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                                                                                                                                                                                                                                                                                                                                       Claim 42; Page 349-350; 1091pp;
                                                      activity
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DB; ABZ42148.
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Pred. No. 9.7
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Sequence

218

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Query Match 13.8%; Sometimes Similarity 25.5%; Property Matches 61; Conservative 47;

Score 174.5; Pred. No. 2.4e 47; Mismatches

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Length

39;

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RESULT 12
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Best Local S
Matches 63
                     The present invention is related to a Lactococcus lactis nucleotide sequence (ABA90521) and related proteins (ABB53300-ABB55521). The nucleic acid sequence is useful in the detection and/or amplification of nucleic acid sequence, particularly to identify Lactococcus lactis or related species. The proteins of the invention are useful for the biosynthesis or biodegradation of a composition of interest. The invention helps research in lactic bacteria, particularly useful in the production of yogurt and cheese. Note: The sequence data for this patent is based on equivalent patent w0200177334 (published 18-0CT-2001) which is available in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences. (Updated on 29-AUG-2003 to standardise OS field)
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16-MAY-2002
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Sequence 235
                                                                                                                                                                                                                Claim 6; SEQ ID NO 1661; 2504pp; French
                                                                                                                                                                                                                                          New nucleotide sequence useful in the lactis and related species.
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Pred. No. 9.7e-12
6; Mismatches 8:
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RESULT 13
ABB47959
The present invention relates to the genome sequence of Listeria monocytogenes EGD-e (see ABA03041). The genome sequence and fragments of it are useful for selecting probes and primers for detecting genes in L. monocytogenes and related organisms, and for studying genetic polymorphisms and other genomes. The present sequence is a protein encoded by the genome sequence of the present invention. Proteins expressed from the genome sequence are useful for raising specific antibodies, identification of L. monocytogenes and related organisms, an for biosynthesis and biodegradation, especially biosynthesis of Vitamin B12. The genome sequence and proteins encoded by it are also useful for selecting compounds that regulate gene expression and cell replication and modulate L. monocytogenes-related diseases. In addition, the genome sequence and proteins encoded by it are useful in pharmaceutical and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Buchrieser C, Frangeul L, Couve E, Rusniok C, Fsihi H, Dehoux P; Dussurget O, Chetouani F, Nedjari H, Glaser P, Kunst F, Cossart I, Daniels J, Goebel W, Kreft J, Kuhn M, Ng E, Vazquez-Beland JA; Dominguez-Bernal G, Garrido-Garcia P, Tierrez-Martinez A, Amend A; Chakraborty T, Domann E, Hain T, Berche P, Charbit A, Durant L; Perez-Diaz J, Baquero F, Garcia Del Portillo F, Gomez-Lopez N; Maduenio E, De Pablos B, Wehland J, Kaerst U, Entian K, Hauf J; Rose M, Voss H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Genomic sequence for Listeria monocytogenes, useful e.g. for and prevention of Listeria and related bacterial infections,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Antibacterial; gene therapy; vaccine; bios vitamin B12; bacterial infection; disease.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID NO 664; 192pp; French.
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ons, and related
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New Streptococcus protein for the treatment or disease caused by Streptococcus bacteria, such detecting a compound that binds to the protein.

prevention of as meningitis,

infection, and for

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Page 4153;

4525pp;

English.

2002-352536/38. DB; ABN71161.

The invention relates to a protein (ABP25413-ABP30895) from group B streptococcus/GBS (Streptococcus agalactiae) or group A streptococcus/GAS (Streptococcus pyogenes), comprising one of 5483 sequences (S1), given in

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RESULT 14
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Matches 63
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24-NOV-2000; 2000GB-00028727.
07-MAR-2001; 2001GB-00005640.
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                                                                                                                                                                                                                                                                                                                                                               Margarit Y RosI,
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Pred. No. 1e-10;
7; Mismatches
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RESULT 15
ABP28562
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XX ABP28
XX O2-JU
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Best Local S
Matches 58
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Streptococcus; GAS; GBS; group B streptococcus; Streptococcus agalactiae; group A streptococcus; Streptococcus pyogenes; antibacterial; antiinflammatory; infection; vaccine; meningitis; gene therapy.
                                                                                                                                                                                                                                                                                                                                                     27-OCT-2000; 2000GB-00026333.
24-NOV-2000; 2000GB-00028727.
07-MAR-2001; 2001GB-00005640.
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                              WPI; 2002-352536/38
N-PSDB; ABN69193.
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                                                                                                                                          Telford J,
Tettelin H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       29-OCT-2001; 2001WO-GB004789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    02-MAY-2002.
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1 Similarity 25.0%;
58; Conservative 4
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INST GENOMIC
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CC Streptococcus (GBS) (Streptococcus agalactiae) or group A streptococcus/GAS (Streptococcus/GBS), comprising one of 5483 sequences (S1), given in CC the specification. The proteins have antibacterial and antiinflammatory cativity. (1), nucleic acids encoding (1), ABM66044-ABM71526 and cC antibodies that bind (I) are used in the manufacture of medicaments for the treatment or prevention of infection or disease caused by Streptococcus bacteria, particularly S. agalactiae and S. pyrogenes. CC Nucleic acids encoding (I) are used to detect Streptococcus in a CC biological sample. (I) is used to detect Streptococcus in a CC biological sample. (I) is used to detect acid encoding (I), may be used a vaccine or diagnostic composition. The disease caused by CC Streptococcus that is prevented or treated may be meningitis. Nucleic ccused in gene therapy. Antibodies to (I) are used for affinity chromatography, immunoassays, and distinguishing/identifying Streptococcus proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New Streptococcus protein for the treatment or prevention of infection disease caused by Streptococcus bacteria, such as meningitis, and for detecting a compound that binds to the protein.
Sequence 231 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to a protein (ABP25413-ABP30895) from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Page 3795; 4525pp; English.
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밁 á 밁 S 밁 S 밁 Ś Query Match Best Local S Matches 58 169 190 110 135 5 8 84 IALVVGAAPLGAIALTTLLVNFRHVFYAFSFPLHV-----VKNPIARFYSVFALI-D 24 DKGYRRYEIAQGLKTSLAAGLGMYPIGIAFGLLVIQYGYEWWAAPLFSGLIFAGSTEMLV 1 Similarity 58; Conserv EKGFK-----EGVKDALFTALGYISIGLAFGIVASASDLSAIEVGLMSALVYGGSAQFAM 57 AMFIGLEV----FQLEGMLSDGKRLVVYVLASVGLSYFLLATELSGALSV SLFVTLTLDSCRTKKQIPSLLLAGLSFTIALVVIPGQALFAALLIFLGLLTI EAYAVTAARPAGWS----AWRLISMQIAFHSYWVFGGLTGVAIAELIPF-EIKGLEFALC 189 CALLLAKADIMTITMTVFLVNLKNMLMS----LHATTIFKSAHLMNQLA----IGTLITD ESYGVLLGEALHHKVVSPSW-MHGNNVMSYLTWVISTIIGTLLGSTIPNPEMFGLDFALV Conservative 13.2%; 43; Score 167; DB 5; Length 231; Pred. No. 1.7e-10; Mismatches 97; Indels 34; 214 241 Gaps 168 109 134

Search completed: April 16, Job time : 73.6156 secs 2004, 06:53:11

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Result
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Maximum DB
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1: /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/2/iaa/6A_COMB.pep:*
4: /cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
5: /cgn2_6/ptodata/2/iaa/backfiles1.pep:*
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US-09-38-352-6525
US-09-38-352-4486
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US-09-107-532A-4920
US-09-489-039A-10187
US-09-489-039A-127947
US-09-252-991A-1218
US-09-134-000C-6789
US-09-252-991A-31829
US-09-252-991A-31829
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US-08-944-496-39
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Sequence 4486, Ap
Sequence 4486, Ap
Sequence 4920, Ap
Sequence 27947, A
Sequence 1218, A
Sequence 5154, Ap
Sequence 6784, Ap
Sequence 6789, Ap
Sequence 18185, A
Sequence 31521, A
Sequence 31521, A
Sequence 31521, A
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Sequence 6525, Appli
Sequence 4486, Application
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	19867, A	12893, A	4847, Ap	394, App	394, App	394, App	-	30355, A	•	,01	Ç	65	,06	,	ú	7699, Ap	,	2, Appli

ALIGNMENTS

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APPLICANT: EGGELING, LOTHAR
APPLICANT: EGGELING, LOTHAR
APPLICANT: PPEFFERLE, WALTER
TITLE OF INVENTION: NUCLECTIDE SEQUENCE CODING FOR THE EXPORT OF
TITLE OF INVENTION: BRANCHED CHAIN AMINO ACIDS, PROCESS FOR THE
TITLE OF INVENTION: 1801ATION THEREOF AND USE THEREOF
FILE REFERENCE: 21123/265496/MAS
CURRENT APPLICATION NUMBER: US/09/471,803A
CURRENT FILING DATE: 1999-12-23
PRIOR APPLICATION NUMBER: US 199 51 708.8
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR FILING DATE: 1999-10-27
NUMBER OF SEQ ID NOS: 12
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 3
LENGTH: 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; ORGANISM: Corynebacterium glutamicum FEATURE: TOTHER INFORMATION: ATCC14752 US-09-471-803A-3
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GENERAL INFORMATION:
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Best Local Similarity
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                                                                                                                                                             181 IKGLEFALCSLFVTLTLDSCRTKKQIPSLLLAGLSFTIALVVIPGQALFAALLIFLGLLT
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IRYFFLGKAAK 251
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                                                                                                          IKGLEFALCSLFVTLTLDSCRTKKQIPSLLLAGLSFTIALVVIPGQALFAALLIFLGLLT
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Pred. No. 2.6e-138;
; Mismatches 0;
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RESULT 2
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US-09-489-039A-8478
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Best Local S
Matches 62
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GENERAL INFORMATION:
APPLICANT: GASY L. Breton et al.
APPLICANT: GASY L. Breton et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO ACINETOBACTER
TITLE OF INVENTION: BAUMANNII FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: GTC99-03PA
CURRENT APPLICATION NUMBER: US/09/328,352
CURRENT FILING DATE: 1999-06-04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: US/09/489,039A CURRENT FILING DATE: 2000-01-27 PRIOR APPLICATION NUMBER: US 60/117,747 PRIOR FILING DATE: 1999-01-29 NUMBER OF SEQ ID NOS: 14342 SEQ ID NO 8478 LENGTH: 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
APPLICANT: Gary Bro
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Best Local
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SEQ ID NO 6525
LENGTH: 266
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Patent No. 6562958
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TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
TITLE OF INVENTION: PNEUMONIAE FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 2709.2004001
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                                  GAIALTTLLVNFRHVFYA-----FSFPLHVVKNFIARFYSVFALIDEAYA----VTAAR 143
                                                                                                                 QGLKTSLAAGLGMYPIGIAFGLLVIQYGYEWWAAPLFSGLIFAGSTEMLVIALVVGAAPL 93
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  WLTALTVIALDIRHVLYGPALYNLIPTKLNLKKTAV----WAWGLTDEVFASGMIQLSOR 151
                                                                       QGAKDSQAIVLTYLPVSFAFGVSASQFGFTPWEAFFLSCSMYAGASQFLVVALLASGSSI 95
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Pred. No. 2.4e-17;
                                                                                                                                                                        Score 190;
Pred. No. 1
                                                                                                                                                        Mismatches
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RESULT 4
US-09-328-352-4486
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US-09-107-532A-4920
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Patent No. 6562958
GENERAL INFORMATION:
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SEQ ID NO 4486
LENGTH: 263
                                                                                                                                                                                                                                                                                                                                                                   Sequence 4920, Application US/09107532A
Patent No. 6583275
GENERAL INFORMATION:
APPLICANT: Lynn A Doucette-Stamm
TITLE OF INVENTION: NUCLEIC ACID
ENTEROCOCCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
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TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO ACINETOBACTER
TITLE OF INVENTION: BAUMANNII FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE GTC99-03PA
CURRENT APPLICATION NUMBER: US/09/328,352
CURRENT FILING DATE: 1999-06-04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Acinetobacter baumannii
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Local Similarity 24.0%; Pred. No. 1.3e-13;
les 49; Conservative 54; Mismatches 96
SOFTWARE: ASCII
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/107,532A
FILING DATE: 30-Jun-1998
PRIOR APPLICATION DATA:
                                                                                                                                           ZIP: 02354
COMPUTER READABLE FORM:
MEDIUM TYPE: CD/ROM ISO9660
                                                                                                                                                                                                                                                                                               CORRESPONDENCE ADDRESS:
ADDRESSEE: GENOME
                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES: 7310
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    113 IFFLTAQHFIYALTLRNDISILPLSKRLTLGFLLTDELFAVSVPNEKKHPQY-LFGAGLC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100 TLLVNFRHVFYAFSFPLHVVKNFIARFYSV-FALIDEAYAVTAARPAGWSAWRLISMQIA 158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         53 IPLSISVIPWAILAGSMAVHAGLSFYKALAMSGIVFAGAAQLVSLSMVMEGASLLTIYVT 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               40 LAAGLGMYPIGIAFGLLVIQYGYEWWAAPLFSGLIFAGSTEMLVIALVVGAAPLGAIALT 99
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                                                                                                      COMPUTER: PC
OPERATING SYSTEM: <Unknown>
                                                                                                                                                                                                                                                          STREET: 100 Beaver Street CITY: Waltham
                                                                                                                                                                                                                                      STATE: Massachusetts
                                                                                                                                                                                                                   COUNTRY: USA
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                                                                                                                                                                                                                                                                                                        GENOME THERAPEUTICS CORPORATION
                                                                                                                                                                                                                                                                                                                                                                   and David Bush
AND AMINO ACID SEQUENCES RELATING
FAECIUM FOR DIAGNOSTICS AND THERAF
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                                                                                                                    GENERAL INFORMATION:
APPLICANT: GRAYY BRECON et. al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
TITLE OF INVENTION: PNEUMONIAE FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 2709.2004001
CURRENT APPLICATION NUMBER: US(09/489,039A
CURRENT FILING DATE: 2000-01-27
PRIOR APPLICATION NUMBER: US 60/117,747
PRIOR APPLICATION NUMBER: US 60/117,747
PRIOR PILING DATE: 199-01-29
NUMBER OF SEQ ID NOS: 14342
SEQ ID NO 10187
                                                                                                                                                                                                                                                                                                                     Sequence 10187, Application US/09489039A
Patent No. 6610836
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Best Local
Query Match
Best Local
                                                   ORGANISM: Klebsiella
-09-489-039A-10187
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 Local Similarity
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ATTORNEY/AGENT INFORMATION:
NAME: Ariniello, Pamela Deneke
REGISTRATION NUMBER: 40,489
REFERENCE/DOCKET NUMBER: GTC-012
TELECOMPUNICATION INFORMATION:
TELEPHONE: (781)893-5007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: misc feature
LOCATION: (B) LOCATION 1...255
SEQUENCE DESCRIPTION: SEQ ID NO: 4920:
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63; Conserv
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25.0%; Pred. No. 3.0c
105; Mismatches 105;
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   Score 181;
Pred. No. 1
   DB 4;
.2e-12;
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                   Length 251;
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GENERAL INFORMATION:

APPLICANT: Gary Breton et. al TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO TITLE OF INVENTION: PNEUMONIAE FOR DIAGNOSTICS AND THERAPEUTICS FILE REFERENCE: 2709-2004001
CURRENT APPLICATION NUMBER: US/09/489,039A
CURRENT FILING DATE: 2000-01-27

KLEBSIELLA

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RESULT
US-09-489-039A-12218
Sequence 12218, Application US/09489039A
Patent No. 6610836
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US-09-252-991A-27947
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PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
SEQ ID NO 27947
LENGTH: 345
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CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
PRIOR FILING DATE: 1998-02-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: MAIC J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT ORGANISM: Pseudomonas aeruginosa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              197
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                                                                                                                                                                                                                                                                                                                                                                                                              29 RYBIAQGLKTSLAAGLGMYPIGIAFGLLVIQYGYEWWAAPLFSGLIFAGSTEMLVIALVV
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                                                                                                                              -NVPTLVCVATSLFCSVLFSHWQ--WSSALVLAGL 324
                                                                                                                                                                                                                                                                                                                                                                   RQAFLRGAVAILPLSLAVAPWGLLAGSMAIBANLTPAEGQGLSAIVFAGAAQLVAIGMLK 176
                                                                                                                                                                    KQIPSLLLAGLSFTIALVVIPGQALFAALLIFLGL 238
                                                                                                                                                                                                         RNFNRWYALGVGLTFYIAWNLFTLAGILLGRSIPGLEHLGLDFSIAATFIALVAPLVR--
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; Pred. No. 8.9e-12;
47; Mismatches 104
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; TYPE: PRT ; ORGANISM: Klebsiella US-09-489-039A-12218
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US-09-134-001C-5154
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PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 14342
SEQ ID NO 12218
LENGTH: 288
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Best Local S
Matches 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Patent No. 6380370
GENERAL INFORMATION:
APPLICANT: Lynn Dou
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Best Local
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LENGTH: 242
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                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: U5/09/134,001C CURRENT FILING DATE: 1998-08-13 PRIOR APPLICATION NUMBER: U5 60/064,964 PRIOR FILING DATE: 1997-11-08 PRIOR APPLICATION NUMBER: U5 60/055,779 PRIOR APPLICATION NUMBER: U5 60/055,779 PRIOR FILING DATE: 1997-08-14 NUMBER OF SEQ ID NOS: 5674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Lynn Doucette-Stamm et al TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO STAPHYLOCOCCUS TITLE OF INVENTION: EPIDERMIDIS FOR DIAGNOSTICS AND THERAPEUTICS FILE REFERENCE: GTC-007
                                                                                                                                                                                                                                                                                                                                                                                            ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 145 AGLLVNARHIPFGVT-----VRELVGRRALSFIGCHIMNDESVVFGLSQPTPAQRKAAYW
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTLLVNFRHVFYAFSFPLHVVKNPIAR----FYSVFALIDEAYAVTAARPA---GWSAWR 151
                                                                                                                                                                                                                                                                                             Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ĹCGAGVÁL--IWPLGTĽTGAÁVGKÍLPAPETIGÍDAVFPAILLAĽVIPAFKNR---TTLI
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                                                                                                                                       SAIVLITLIVNSR-----MPLLSMTLAPNYKQYGFWNRVGLGTLLTDETFGV-AITPYV 132
                                                                                                                                                                      GAIALTTILIVNFRHVFYAFSFPLHVVKNPIARFYSVF-----ALIDEAYAVTAARP-- 144
                                                                                                                                                                                                       QGLKTSLAAGLGMYPIGIAFGLLVIQYGYEWWAAPLFSGLIFAGSTEMLVIALVVGAAPL 93
                                    DSCRTKKQ------IPSILLAGLSFTIALVVIPGQALFAALL 233
                                                                 KGEKINDRW----LHGLNITAYLFWTVSCVIGAIFGEYISNPDALGLDFAITAMFIFLCI 188
 SQFEGIKKSRLRIYIVLIVCVIVMMLLLSSILPSYVAILI--AAIVAALL
                                                                                                    -----AGWSAWRLISMQIAFHSYWVFGGLTGVAIAELIPF-EIKGLEFALCSLFVTLTL 197
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nilarity 27.5%;
Conservative 41
                                                                                                                                                                                                                                                                           Conservative
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                                                                                                                                                                                                                                                                           12.7%; Score 161.5; DB 24.8%; Pred. No. 2e-10; tive 40; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        41; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 171.5; DB 4;
Pred. No. 1.8e-11;
Wismatches 87;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                285
                                                                                                                                                                                                                                                                                                            DB 4;
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                                                                                                                                                                                                                                                                                                             Length 242;
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APPLICANT: Lynn Doucette-Stamm et al TITLE OF INVENTION: NUCLEIC ACID AND AMINO AC: TITLE OF INVENTION: ENTERCOCCUS FAECALIS FOI FILE REFERENCE: 032796-032
CURRENT APPLICATION NUMBER: US/09/134,000C
CURRENT FILING DATE: 1998-08-13
PRIOR APPLICATION NUMBER: US 60/055,778
PRIOR FILING DATE: 1997-08-15
NUMBER OF SEQ ID NOS: 6812
SOFTWARE: Patentin version 3.1
SEQ ID NO 6789
LENGTH: 206
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US-09-328-352-6024
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US-09-134-000C-6789
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TYPE: PRT
; ORGANISM: Acinetobacter baumannii
; ORGANISM: Acinetobacter baumannii
US-09-328-352-6024
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TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO ACINETOBACTER
TITLE OF INVENTION: BAUMANNII FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: GTC99-03PA
CURRENT APPLICATION NUMBER: US/09/328,352
CURRENT FILING DATE: 1999-06-04
NUMBER OF SEQ ID NOS: 8252
SEQ ID NO 6024
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Patent No. 6562958
GENERAL INFORMATION:
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GENERAL INFORMATION:
APPLICANT: Lynn Doucette-Stamm et al
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                                                                                                                                                                                                                                                                                         TYPE: PRT ORGANISM: Enterococcus faecalis
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 224
                                                                         130 FALIDEAYAV-----TAARPA--GWSAWRLISMQIAFHSYWVFGGLTGVAIAELIPF- 179
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   49 IGIAFGLLVIQYGYEWWAAPLFSGLIFAGSTEMLVIA-LVVGAAPLGAIALTTLLVNFRH 107
180 EIKGLEFALCSLFV---TLTLDSCRTKKQIPSLLLAGLSF---TIALVVIPGQAL-FAAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          l Similarity
52; Conser
                                     77 TLLTDESFALGMNKLNHTKGRLSFEWFNAANLIS----YATWVFSTIIGAYLGRFTANP 131
                                                                                                                                         71 SGLIFAGSTEMLVIALVVGAAPLGAJALTTLLVNFRHVFYAFSF-PLHVVKNPIARFYSV 129
                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LGVTAGYFIGSAIPDPKTFGLDAIFPAILIALTFSALKNK---VTRKAAFAGSTLALITT 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FGGLTGVAIAELIPF-EIKGLEFALCSLFVTLTLDSCRTKKQIPSLLLAGLSFTIALVVI 223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LPFGIAVN-EMIRGKFSOYFGSHIMNDESVLFGMAQPDFETKKAAYWLCGIGIMLS--WP 168
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                                                                                                                  SEFIFAGSAQFVTVSMLTGGSPILSIVLATFLVNARMILMGMTIAFYFKAESLGKNLWLG
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26.4%;
tive 37
                                                                                                                                                                                               10.8%; Score 137; DB 4
26.8%; Pred. No. 1e-07;
tive 42; Mismatches
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Pred. No. 4.1e-08;
"" ematches 95;
                                                                                                                                                                                                                                     DB 4; Length 206;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACID SEQUENCES RELATING FOR DIAGNOSTICS AND THE
                                                                                                                                                                                                    76;
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FILE REPERENCE: 107196.136
CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
SEQ ID NO 32299
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US-09-543-681A-4173
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                                                             US-09-252-991A-32299
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Best Local S
Matches 56
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SEQ ID NO 4173
LENGTH: 230
TYPE: PRT
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Patent No. 6551795
GENERAL INFORMATION:
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TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PROTEUS MIRABITITE OF INVENTION: DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 2709.1002-001
CURRENT APPLICATION NUMBER: US/09/543,681A
CURRENT FILING DATE: 2000-04-05
PRIOR APPLICATION NUMBER: US 60/128,706
PRIOR PILING DATE: 1999-04-09
PRIOR FILING DATE: 1999-04-09
Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                            APPLICANT: Marc J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 107196.136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Proteus mirabilis
                                                                                                   LENGTH: 484
TYPE: PRT
                                                                               ORGANISM: Pseudomonas
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              26 LLVSLADGI----VGISYGALAHTQGFDFWVPLSLSIFVLAGASEFLFIGVVAMGGSAIY 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           l Similarity
56; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LTRKAAIIGSVIALATTLFLP--AGIPVLLSLLGVLFV 226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGWSAWRLISMQIAFHSYWVFGGLTGVAIAE-LIPFEIKGLEFALCSLFVTLTLDSCRTK 203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A-ALAGLMVNARHI----PFSMAVKELPGKGIKSLLGFHILNDESVVFGLSQSTAEQNRL 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KQIPSLLLAGLSFTIALVVIPGQALFAALLIFLGLLTI 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10.6%; Score 134.5; DB 4 ilarity 25.7%; Pred. No. 2.4e-07; Conservative 42; Mismatches 91
  8.9%;
25.1%;
                                                                                 aeruginosa
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  Score 113.5; DB 4; Pred. No. 0.00018;
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                        Length 484;
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US-09-252-991A-18185
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APPLICANT: Marc J. R.
TITLE OF INVENTION:
TITLE OF INVENTION:
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; LENGTH: 270
; TYPE: PRT
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CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
PRIOR FILING DATE: 1998-02-18
PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR FILING DATE: 1998-07-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 18185, Application US/09252991A Patent No. 6551795
                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT ORGANISM: Pseudomonas aeruginosa
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205 GL----
                                   196 TLDSCRTKKQIPSLLLAGL----SFTIALVVIPGQAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -----FSGLI----FAGSTEMLVIALVVGAAPLGAIALTTLLVNERHVFYAFSFPL 116
                                                                                                                                                                                                                                                                                           SSIDPSVLFAALP-----FSLWQWLLVELAIVLAYVVFGTAGFGTALV------AG 56
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                                                                                                                                               ALRAEL ---
                                                                                                                                                                                                                    PLLAGVLPLSQIIPLLVLLDFSASFGNWLPARRQIAVTELKRLLPCMLLGCA-LGAYGLL 115
                                                                                                                                                                                                                                                            PLFSGLI-----
                                                                      -ATWALPFGVFGGLFGALFGSGGFLYSLYLNGRLASKE----QMRATQSALIGCSTFVRL
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 ----FLLAGLYAAREPWLLAACLLPGMAL
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NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                               ----LMLALGVFVSFYALYALF-----LQPRGQPRWR
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RESULT 15 US-09-252-991A-31521 ; Sequence 31521, Ap

Application US/09252991A

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; ORGANISM: Pseudomonas aeruginosa
US-09-252-991A-31521
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APPLICANT: MAIC J. Rubenfield et al.
APPLICANT: MAIC J. Rubenfield et al.
APPLICANT: MAIC J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
FILE REPERENCE: 107196.136
CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
PRIOR RILING DATE: 1998-02-18
PRIOR RILING DATE: 1998-02-18
PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
SEQ ID NO 31521
LENGTH: 555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 8.2%; Score 104; DB 4; Length 555; Best Local Similarity 22.1%; Pred. No. 0.0028; Matches 75; Conservative 32; Mismatches 92; Indels 140; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              216 LCMGLVALILPWLGRWLAEHRGIVCGLLAIAAAC-LWRLELDSGLALIASAALAGSGVAI 274
                                                                                                                                                                                                                               446 CGLL---LMPLQHAALWVALIGYGLGACFALSLTLTLDHLHEPRAAGSLAAFVQGIGFII 502
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                                                                                                                 503 TGIVPYLTGWLRDVTGSFQASWLLLAASVVAMLLVTLRF 541
                                                                                                                                                                                                                                                                                      169 TGVAIAELIPFEIKGLEFAL------C-SLFVTLTLDSCRTKKQIPSL--LLAGLSFTI 218
                                                                                                                                                                                                                                                                                                                                                   392 YRQLGWSAQDSGGLVGIMTIFQVLAALSVPLLIRRRLDRRPWLLAALLVQ------LGGF 445
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                                                                                                                                                                           ALVV-----IPGQ----ALFAALLIFLGLLTIRY 243
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3175 Appl
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Sequence 32, Appl

Sequence 32, Appl

Sequence 14, Appl

Sequence 14, Appl

Sequence 149, Appl

Sequence 150, Appl

Sequence 152, Appl

Sequence 152, Appl

Sequence 2463, Appl

Sequence 232, Appl

Sequence 6176, Appl

Sequence 6174, Appl

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Sequence 6173, Appl

Sequence 6176, Appl

Sequence 322, Appl

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US-10-417-884A-4920
                                                                                                                           COMPUTER: PC
COMPUTER: PC
COMPUTER: PC
OPERATING SYSTEM: <Unknown>
SOPTWARE: ASCII
CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/10/417,884A
FILING DATE: 17-Apr-2003
PRIOR APPLICATION NUMBER: US/09/107,532
FILING DATE: 30-Jun-1998
APPLICATION NUMBER: 60/085,598
FILING DATE: 14 May 1998
APPLICATION NUMBER: 60/051571
FILING DATE: July 2, 1997
ATTORNEY/AGENT INFORMATION:
NAME: Ariniello, Pamela Deneke
REGISTRATION NUMBER: 40,489
REFERENCE/DOCKET NUMBER: GTC-012
TELEPHONE: (781)893-5007
TELEPHONE: (781)893-8277
INFORMATION FOR SEQ ID NO: 4920:
SEQUENCE CHARACTERISTICS:
LENGTH: 255 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 4920, Application US/10417884A
GENERAL INFORMATION:
APPLICANT: Lynn & Doucette-Stamm
TITLE OF INVENTION: NUCLEIC ACID
ENTEROCOCCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              222222222222224444472
7890122242367890122247
                                                                 LENGTH: 255 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHETICAL: YES
ORIGINAL SOURCE:
                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: CD/ROM ISO9660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES: 7310
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84
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CITY: Waltham
STATE: Massachusetts
COUNTRY: USA
   NAME/KEY: misc feature
LOCATION: (B) LOCATION 1...255
                                                    ORGANISM: Enterococcus faecium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE: GENOME THERAPEUTICS CORPORATION
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US-60-556-841-8095
US-60-556-841-111313
US-09-830-915D-37
US-60-556-915D-37
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            and David Bush
AND AMINO ACID SEQUENCES RELATING TO
FARCIUM FOR DIAGNOSTICS AND THERAPEUTICS
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Score 185.5 161.5

Query Match Length

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Minimum DB Maximum DB

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length: 0 length: 2000000000

Scoring table:

BLOSUM62 Gapop 10.0 , Gapext 0.5

Title: Perfect score:

US-10-608-504-3 1269

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PRIOR APPLICATION NUMBER: 09/450,969
PRIOR FILING DATE: 1999-11-29
PRIOR FELLING DATE: 1998-08-13
PRIOR FILING DATE: 1998-08-13
PRIOR PELLING DATE: 1998-08-13
PRIOR PELLING DATE: 1997-11-08
PRIOR APPLICATION NUMBER: 60/64,964
PRIOR FILING DATE: 1997-10-08-14
PRIOR FILING DATE: 1997-08-14
NUMBER OF SEQ ID NOS: 7544
PRIOR FILING DATE: 1997-08-14
PRIOR FILING DATE: 1997-08-14
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US-10-724-972A-6721
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                                                                                                                                                                                                                                                                                                                                                                                                                       ; TYPE: PRT; ORGANISM: S.epidermidis
US-10-724-972A-6721
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Best Local s
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APPLICANT: Bush, David
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO STAPHYLOCOCCUS
TITLE OF INVENTION: EPIDERMIDIS FOR DIAGNOSTICS AND THERAPBUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILE REFERENCE: PATHO3-16
CURRENT APPLICATION NUMBER: US/10/724,972A
CURRENT FILING DATE: 2003-12-01
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nes 63; Conserv
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                                                                                                                                                                                                                     94 GAIALTTLLVNFRHVFYAFSFPLHVVKNPIARFYSVF-----ALIDEAYAVTAARP--
                                                                                                                                                                                                                                                                                                                                         Ch 12.7%; Score 161.5; DB 6; Length 242; Similarity 24.8%; Pred. No. 2.4e-09; Similarity 24.8%; Pred. No. 2.4e-09; Indels 43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGSAQFITVSMLASHSPLLSIVESTFLVNSRMILMSMTIAFYFKKNRLLQNLLIGTLITD 130
                         SQFEGIKKSRLRIYIVLIVCVIVMMLLLSSILPSYVAILI--AAIVAALL 236
                                                                                                                                                                                                                                                                                                     QGLKTSLAAGLGMYPIGIAFGLLVIQYGYEWWAAPLFSGLIFAGSTEMLVIALVVGAAPL
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                                                                                                     KGEKINDRW----LHGLNITAYLFWTVSCVIGAIFGEYISNPDALGLDFAITAMFIFLCI
                                                                                                                                           ----AGWSAWRLISMQIAFHSYWVFGGLTGVAIAELIPF-EIKGLEFALCSLFVTLTL 197
                                                                                                                                                                                     SAIVLTTLIVNSR---
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25.0%;
                                                             ------IPSĻĻĻAGLSFTIALVVIPGQALFAALL 233
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US-60-556-841-7285
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US-60-556-841-2490
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APPLICANT: Abad, Mark S.

APPLICANT: Abad, Mark S.

TITLE OF INVENTION: Genes and Uses for Plant Improvement
FILE REFERENCE: 38-21(53450)

CURRENT APPLICATION NUMBER: US/60/556,841

CURRENT FILING DATE: 2004-03-25

NUMBER OF SEQ ID NOS: 12463

SEQ ID NO 2490

LENGTH: 455

TYPE: DBT
                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 55; Conserv
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SEQ ID NO 7285
LENGTH: 477
TYPE: PRT
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Best Local Similarity 27.5%;
Matches 56; Conservative 2
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TITLE OF INVENTION: Genes and Uses for Plant
FILE REFERENCE: 38-21(53450)
CURRENT APPLICATION NUMBER: US/60/556,841
CURRENT FILING DATE: 2004-03-25
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                       -LTLDSCRTKKQIPSLLLA----GLSFTIALVVIPGQALFAALL
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                                                                                  VAVGMVLAIFS--MSGSSAVVTLGEEAQQPRKNIKKALLISFITTGVVFVLTSYALTVGW 262
                                                                                                                        RLISMQIAFHSYWVFGGLTGVAIAE-------LIPFEIKGLEFALCSLFVT---
                                                                                                                                                                IVILTVIAYLGIKPSLAYSFTASVIBIALLVITSVVIIVALGSKNTYVPFTAGPADGFAA 204
                                                                                                                                                                                                                                          YGLII----GYMMWFSYFMVITNAILFTSGVFIPGTISYFLHFNIGSYTWIPI----MTAF 144
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5%; Pred. No. 0.017;
26; Mismatches 6
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Pred. No. 0.023;
1; Mismatches
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US-10-772-636-32
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; ORGANISM: Homo sapiens
PCT-US04-03417-32
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PRIOR FILING DATE: 2003-02-05
PRIOR APPLICATION NUMBER: US 60/448,389
PRIOR FILING DATE: 2003-02-18
PRIOR FILING DATE: 2003-02-18
PRIOR APPLICATION NUMBER: US 60/456,320
PRIOR FILING DATE: 2003-03-20
PRIOR APPLICATION NUMBER: US 60/460,279
PRIOR FILING DATE: 2003-04-03
PRIOR FILING DATE: 2003-04-03
PRIOR FILING DATE: 2003-04-28
PRIOR PILING DATE: 2003-04-28
Sequence 32, Application US/10772636
GENERAL INFORMATION:
APPLICANT: Kelly, Louise M.
APPLICANT: Carroll, Joseph M.
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Best Local Similarity
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SEQ ID NO 32
LENGTH: 760
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CURRENT FILING DATE: 2004-02-05
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APPLICATION NUMBER: US 60/498,106
FILING DATE: 2003-08-26
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Healy, Aileen
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UMBEP: --
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; Pred. No. 0.042;
27; Mismatches 5
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APPLICANT: ZOZULYA, SERGEY
APPLICANT: L', XIADONG
APPLICANT: L', XIADONG
APPLICANT: STASZEWSKI, LENA
TITLE OF INVENTION: TIR TASTE RECEPTORS AND GEN
FILE REFERENCE: 078003/0277870/RXT
CURRENT APPLICATION NUMBER: US/10/725,081
CURRENT FILING DATE: 2003-12-02
PRIOR APPLICATION NUMBER: 60/187,546
PRIOR FILING DATE: 2000-03-07
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CURRENT APPLICATION NUMBER: US/10/772,636
CURRENT FILING DATE: 2004-02-05
PRIOR APPLICATION NUMBER: US 60/445,241
PRIOR FILING DATE: 2003-02-05
PRIOR APPLICATION NUMBER: US 60/448,389
PRIOR FILING DATE: 2003-02-18
PRIOR FILING DATE: 2003-02-18
PRIOR PILING DATE: 2003-02-19
PRIOR FILING DATE: 2003-02-79
PRIOR FILING DATE: 2003-04-03
PRIOR APPLICATION NUMBER: US 60/460,279
PRIOR APPLICATION NUMBER: US 60/465,924
PRIOR APPLICATION NUMBER: US 60/465,924
PRIOR FILING DATE: 2003-04-28
PRIOR FILING DATE: 2003-04-28
PRIOR FILING DATE: 2003-04-28
PRIOR FILING DATE: 2003-04-28
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SOFTWARE: Fast
SEQ ID NO 32
SMATTH: 760
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Best Local
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TYPE: PRT
ORGANISM: Homo
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PRIOR FILING DATE: 2003-05-13
PRIOR APPLICATION NUMBER: US 60/498,106
PRIOR FILING DATE: 2003-08-26
PRIOR APPLICATION NUMBER: US 60/500,179
PRIOR APPLICATION NUMBER: US 60/500,179
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APPLICANT: Healy, Aileen
TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR TREATING
TITLE OF INVENTION: HEMATCLOGICAL DISORDERS USING 9118, 990, 1766
TITLE OF INVENTION: 21472, 17692, 19290, 21680, 28899, 536
TITLE OF INVENTION: 9465, 23544, 7366, 27417, 57259, 21844, 943,
TITLE OF INVENTION: 9137, 13908, 14310, 17600, 25584, 27824, 2846
TITLE OF INVENTION: 53003, 965, 56639, 9661, 16052, 1521, 6662, 1
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Pred. No. 0.042;
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6662, 13913,
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PRIOR FILING DATE: 2001-01-03; NUMBER OF SEQ ID NOS: 20; SOFTWARE: Patentin Ver. 2.1; SEQ ID NO 14; SEQ ID NO 14; LENGTH: 858; TYPE: PRT; CRGANISM: Rattus sp. US-10-725-081-14
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US-60-554-751-14
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                                                                                                                                                                                                  ; ORGANISM: Rattus rattus US-60-554-751-14
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CURRENT FILING DATE: 2004-03-19
NUMBER OF SEQ ID NOS: 98
SOFTWARE: Patentin version 3.2
SEQ ID NO 14
SEQ ID NO 14
                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 14, Application US/60554751
GENERAL INFORMATION:
APPLICANT: Li, Xia
APPLICANT: Li, Weihua
APPLICANT: Reed, Danielle R.
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Best Local Similarity
Matches 59; Conserv
                                                                                                                              Matches
                                                                                                                                             Query Match 7.7%;
Best Local Similarity 22.3%;
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APPLICANT: Bachmanov, Alexander A.

APPLICANT: Brand, Joseph G.

TITLE OF INVENTION: TASTE RECEPTOR OF THE TIR FAMILY FROM DOMESTIC FILE REFERENCE: MON-0298
                                                                                                                                                                                                                                       LENGTH: 858
TYPE: PRT
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FILING DATE: 2000-06-23
APPLICATION NUMBER: 30/226,448
FILING DATE: 2000-08-17
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                      95
                      AIALT----TLLVNFRHVFYAFSFPL-----HVVKNPIARFYSVFALIDE----AYAV 139
                                                         ALGLFV-----HYWDSPLVQASGGSLFCFGLICLGLFCLSVLLFPGRPRSASCLAQQPMA 645
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                                                                                           AFGLLVIQYGYEWWAAPLFS-----
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llarity 22.3%;
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                                                                                             -GLIFAGSTEMLVI-----ALVVGAAPLG
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; LENGTH: 417
; TYPE: PRT
; TYPE: PRT
; TYPERINE: Homo sapiens
; FEATURE:
; OTHER INFORMATION: RhCE Residues 111-125
US-09-857-097C-148
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US-09-857-097C-148
                                                                                                                                                                    RESULT 10
US-09-857-097C-149
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PRIOR FILING DATE: 1998-12-01
NUMBER OF SEQ ID NOS: 152
SOFTMARE: PATENTIN VET. 2.1
SEQ ID NO 148
LENGTH: 417
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Sequence 149, Application US/09857097C
GENERAL INFORMATION:
APPLICANT: Urbaniak, Stanislaw J.
APPLICANT: Barker, Robert, N.
TITLE OF INVENTION: ALLO- AND AUTO-REACTIVE
FILE REFERENCE: P097
CURRENT APPLICATION NUMBER: US/09/857,097C
CURRENT FILING DATE: 2001-05-31
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APPLICANT: Barker, Robert, N.
TITLE OF INVENTION: ALLO- AND AUTO-REACTIVE
FILE REFERENCE: P097
CURRENT APPLICATION NUMBER: US/09/857,097C
CURRENT FILING DATE: 2001-05-31
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21.7%; Pred. No. 0.028;
vative 41; Mismatches 90
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PRIOR APPLICATION INMEBR: 9826378.3
PRIOR FILING DATE: 1998-12-01
NUMBER OF SEQ ID NOS: 152
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 150
LENGTH: 417
TYPE: PRT
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US-09-857-097C-150
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PRIOR FILING DATE: 1998-12-01
NUMBER OF SEQ ID NOS: 152
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 149
LENGTH: 417
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Best Local S
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APPLICANT: Barker, Robert, N.
TITLE OF INVENTION: ALLO- AND AUTO-REACTIVE T-CELL
FILE REFERENCE: P097
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Similarity 21.7%;
65; Conservative 4
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IAL-----TTLLVNFRHVFYAFS--FPLHV---VKNPI---
                                                                                                                 ASLE-DOKGLVASYOVGODLTVMAALGLGFLTSNFRRHSWSSVAFNLFMLALGVOW--AI 92
                                                                                                                                              AALEPDDKG-YRRYEIAQGLKTSLAAGLGMYP-----IGIAFGLLVIQYGYEWWAAP
                                                 LLDGFLSQFPPGKVVITLFSIRLATMSAMSVLİSAĞAVLGKVNLAQLVVMVLVEVTALGT 152
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21.7%; Pred. No. 0.0;
tive 41; Mismatches
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US-09-857-097C-152

; Sequence 152, Application US/09857097C

; GENERAL INFORMATION:
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US-10-417-884A-3665
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Matches 65
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SEQ ID NO 152
LENGTH: 417
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TITLE OF INVENTION: ALLO- AND AUTO-REACTIVE
FILE REFERENCE: P097
CURRENT APPLICATION NUMBER: US/09/857,097C
CURRENT FILING DATE: 2001-05-31
PRIOR APPLICATION NUMBER: 9826378.3
PRIOR APPLICATION NUMBER: 9826378.3
PRIOR FILING DATE: 1998-12-01
NUMBER OF SEQ ID NOS: 152
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                                               NUMBER OF SEQUENCES: 7310
CORRESPONDENCE ADDRESS:
ADDRESSEE: GENOME THERAPEUTICS CORPORATION
                                                                                                          APPLICANT: Lynn A Doucette-Stamm TITLE OF INVENTION: NUCLEIC ACID ENTEROCOCCUS
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STATE: Massachusetts
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               CITY: Waltham
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AND AMINO ACID SEQUENCES RELATING
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                                                                                                                                                                                                                                                                                                                 RESULT 14
US-60-556-841-2463
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                                                                         ; ORGANISM: Brassica rapa
US-60-556-841-2463
                                                                                                                                                                                  Sequence 2463, Application US/60556841
GENERAL INFORMATION:
APPLICANT: Abad, Mark S.
APPLICANT: Abad, Mark S.
TITLE OF INVENTION: Genes and Uses for Plant
FILE REFERENCE: 38-21(53450)
CURRENT APPLICATION NUMBER: US/60/556,841
CURRENT FILING DATE: 2004-03-25
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Best Local
 Query Match
Best Local Similarity
Matches 49; Conserv
                                                                                                             NUMBER OF SEQ ID NOS: 12463
SEQ ID NO 2463
LENGTH: 389
TYPE: PRT
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Local Si
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NAME: ATINIELLO, Pamela Deneke
REGISTRATION NUMBER: 40,489
REFERENCE/DOCKET NUMBER: GTC-012
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: CD/ROM ISO9660
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LOCATION: (B) LOCATION 1...326
SEQUENCE DESCRIPTION: SEQ ID NO: 3665:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               143 RPAGWSAW-RLISMQIAFHSYWVFGGLTGVAIAELIPFEIKGLEFAL------CSLFV 193
                                                                                                                                                                                                                                                                                                                                                                                              126 GTLLFLSLTRL---FLQK 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       194 TLTLDSC-----RTKKQIPSLLLAG-----LSFTIALVVIPGQAL-----FA 230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    h 7.3%;
Similarity 24.6%;
34; Conservative 2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OPERATING SYSTEM: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                              ALLIFLGLLTIRYFFLGK 248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GATSSICGLIMQHLTQNKFVSPTTÄGTMDSARLGILVÄMIFLÞGASLIVRSLTAFCFAFA 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 14 May 1998
APPLICATION NUMBER: 60/051571
FILING DATE: July 2, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/10/417,884A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RKVDWWRYGRLVALLVILSSISLFIGVSNVQLSELLQLDGQSLQILLVTRLPRTICLILV 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Enterococcus faecium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 326 amino acids TYPE: amino acid TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEPHONE: (781)893-5007
TELEFAX: (781)893-8277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION DATA:
7.2%; Score 91.5; DB 7; ilarity 23.3%; Pred. No. 0.087; Conservative 28; Mismatches 90;
                                                                                                                                                                                                                                                                                                 Application US/60556841
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 92.5; DB Pred. No. 0.055;
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                                       Length 389;
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FEATURE:
OTHER INFORMATION: RhD Residues 141-155
US-09-857-097C-151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-857-097C-151
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Search completed: April 16,
Job time : 18.4791 secs
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Best Local S
Matches 69
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SEQ ID NO 151
LENGTH: 417
TYPE: PRT
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GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Urbaniak, Stanislaw J.
APPLICANT: Barker, Robert, N.
TITLE OF INVENTION: ALLO- AND AUTO-REACTIVE T-CELL EPITOPES
FILE REFERENCE: P097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        337
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                                                                                                    214 LSFTIALVVIPGQALFAALLI
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                                                                                                                                                                                                                                                                                                                                                                                     69 LESGLIFAGSTEMLVI-----
                                                                                                                                                                                                                                                                                                                                                                                                                     36 ASLE-DOKGIVASYOVGÓDLTVMAAIGLGFLTSSFRRHSWSSVÁFNLFMLALGVOW--ÁI 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                      18 AALEPDDKG-YRRYEIAQGLKTSLAAGLGMYP-----IGIAFGLLVIQYGYEWWAAP 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ch 7.1%; Score 90; DB 5; 1 Similarity 21.5%; Pred. No. 0.14; 69; Conservative 36; Mismatches 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               --VIPTVAINVSNVYKVVQSRKGSMLLALAMLYPFVVLL----
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                                                                                                                                      VHSAVLAGGVAVGTSCHLÍÞSÞWLAMVLGLVAGLÍSVGGAKYLÞGCCNRVLGÍÞHSSIMG
                                                                                                                                                                                                         ALFLWIFWPSFNSALLRSPIERKNAVF---NTYYAVAVSVVTAISGSSLAHPQGKISKTY
                                                                                                                                                                                                                                                                                LRMVISNIFNTDYHMMMHIYVFAAYFGLSVAWCLPKPLPEGTEDNDQTATIPSLSAMLG
                                                                                                                                                                       FHSYMVFGGLTGVAIAELIPFE----IKGLEFALCSLFVTLTLDSCRTK-KQIPSLLLAG
                                                                     YNF--SLIGLIGEIIYIVLLV
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                2004, 07:03:18
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                     194 ATCTGAAGACTCTAACCTTTGGTCTCATTGCCGTTGCGATTACAGTGGTGGCGCATCTTC 253
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Search completed: April 17, 2004, 20:01:49 Job time: 1050.18 secs

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RESULT 13
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AUTHORS
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VERSION
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ORGANISM
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                                                                                                                                 Query Match
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                                                                                      103;
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1 (bases 1 to 890)
1 (bases 1 to 890)
Buell, C.R., Hart, A., Zismann, V., Karamycheva, S.A., Day, B., Staskawicz, B., Jin, H. and Baker, B.
Staskawicz, B., Jin, H. and Baker, B.
Generation of EST sequences from Nicotiana benthamiana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Email: potato-array@tigr.org
Clones can be requested from TIGR via potato@tigr.org
Seq primer: ATT TAG GTG ACA CTA TAG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         end, mRNA sequence.
CK288648
CK288648.1 GI:39866370
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EST751370 Nicotiana benthamiana mixed tiesue cDNA library,
normalized, full-length Nicotiana benthamiana cDNA clone NBMBI02 5'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nicotiana benthamiana
Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
asterids; lamiids; Solanales; Solanaceae; Nicotiana.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Contact: Robin Buell
The Institute for Genomic Research
9712 Medical Center Dr, Rockville,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Nicotiana benthamiana
                                                                                                              Similarity
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TTCTAATGTTAATCGGTCAGCCCGAAAAACATCTCAAGGTGGGCGGGGAAATTCGCGCTGT
                                        TTCCGTTCTTAATCCTTAAGCCCCTACGTGAATCACAATTTGTGGGCCAAAATGGCGATGT 133
                                                                                                                                                                                      /clone lib="Nicotiana benthamiana mixed tissue cDNA library, normalized, full-length"
/note="Vector: pcMvSport6.1; Site 1: EcoRI; Site 2: NotI; supplier: RNA was isolated from Nicotiana benthamiana tissues that include callus, roots from liquid culture grown plants, heat-stressed leaves (38 C, 3 hr and 6 hr), cold-stressed leaves (5 C 3 hr, 6hr), and pathogen challenged leaves (5 Pseudomonas syringae pv tomato 12 hr; Xanthomonas campestris pv campestris 12 hr, 18hr; Pseudomonas syringae pv phaseolicola 18hr, and Xanthomonas campestris pv vesicatoria 18hr). RNA was isolated from these tissues and pooled in approximately equal molar amounts."
                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /tissue_type="abiotic and biotic stress-treated leaves,
callus tissue and root tissue"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Nicotiana benthamiana"
/mol_type="mRNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /clone="NBMBI02"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     db_xref="taxon:4100"
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                                                                                                         10.7%;
                                                                                      Score 34.6; Di
Pred. No. 25;
0; Mismatches
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                                                                                                                                    Length 890;
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Conservative

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Gaps

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GGATGCCAGCAGGAATCCTTGCCATTTTGACCGCATCAACGTTTCGCAGCAATGCGATAG 193

TTCTAATGTTAATCGGTCAGCCCGAAAACATCTCAAGGTGGGCGGGGAAATTCGCGCTGT 554 TTCCGTTCTTAATCCTTAAGCCCCTACGTGAATCACAATTTGTGGGCAAAATGGCGATGT 133

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Best Local S
Matches 103
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Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;

asterids; lamiids; Solanales; Solanaceae; Nicotiana.

(bases 1 to 922)

Buell, C.R., Hart, A., Zismann, V., Karamycheva, S.A., Day, B.,

Staskawicz, B., Jin, H. and Baker, B.

Generation of EST sequences from Nicotiana benthamiana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: potato-array@tigr.org
Clones can be requested from TIGR via potato@tigr.org
Seq primer: ATT TAG GTG ACA CTA TAG.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CK295854 P32 bp mRNA linear EST 15-DEC-2003 EST758568 Nicotiana benthamiana mixed tissue cDNA library, normalized, full-length Nicotiana benthamiana cDNA clone NBMCX72 5'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Unpublished (2003)
Other_ESTs: EST758569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               normalized, full-le end, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The Institute for Genomic Research 9712 Medical Center Dr. Rockville,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Nicotiana benthamiana
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                                                                                                                       /clone_libe_Wicotiana benthamiana mixed tissue cDNA library, normalized, full-length"
/notee_Wector: pcMvSport6.1; Site_1: EcoRI; Site_2: NotI;
/notee_Wector: pcMvSport6.1; Site_1: EcoRI; Site_2: NotI;
/notee_Wector: pcMvSport6.1; Site_1: EcoRI; Site_2: NotI;
supplier: RNA was isolated from Nicotiana benthamiana
tissues that include callus, roots from liquid culture
grown plants, heat-stressed leaves (38 C, 3 hr and 6 hr),
cold-stressed leaves (5 C 3 hr, 6hr), and pathogen
challenged leaves (5 C 3 hr, 6hr), and pathogen
challenged leaves (5 C 3 hr, 6hr), and pathogen
challenged leaves (5 C 3 hr, 8hr), and pathogen
campestris pv campestris 12 hr, 18hr;
Pseudomonas campestris pv campestris 12 hr, 18hr;
Pseudomonas syringae pv phaseolicola 18hr, and Xanthomonas
campestris pv vesicatoria 18hr). RNA was isolated from
these tissues and pooled in approximately equal molar
amounts."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /tissue type="abiotic and biotic stress-treated leaves,
callus tissue and root tissue"
/lab_host="DH108-TonA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /mol_type="mRNA"
/db_xref="taxon:4100"
/clone="NBMCX72"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              organism="Nicotiana benthamiana'
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                         10.7%;
Score 34.6; DI
Pred. No. 26;
0; Mismatches
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CB239541
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Unpublished (2003)
Contact: Martin FM
Equipe de Microbiologie Forestiere
Institut National de la Recherche Agronomique
Centre INRA de Nancy, 54280 Champenoux, France
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CB239541 413 bp mRNA linear EST 30-APR-2003 RSH13B11 two-month-old roots from clone 'Beaupre' grown for 19 days under restricted irrigation Populus balsamifera subsp: trichocarpa Populus deltoides cDNA 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 (bases 1 to 413)
Kohler, A., Delaruelle, C., Martin, D. and Martin, F.
The poplar root transcriptome: analysis of 7000 expressed sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Populus balsamifera subsp. trichocarpa x Populus deltoides Populus balsamifera subsp. trichocarpa x Populus deltoides Populus balsamifera subsp. trichocarpa x Populus del Tridhes Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Ebermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids; eurosids I; Malpighiales; Salicaceae; Salicace; Populus.
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CB239541
CB239541.1 GI:30233030
EST.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tel: +33 383 39 40 80 Fax: +33 383 39 40 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Email: fmartin@nancy.inra.fr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Insert Length: 413 Std Error: 0.00
Seq primer: Fornat 5' AAGCGCGCCATTGTGTTGGTACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGKTAGTKGGGGGGGSTSACVATCTYCRGTSTTARAGT 1100
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/clone_lib="lomo sapiens PLACENTA COT 25-NORMALIZED"
/note="Ist strand cDNA was primed with a NotI-oligo(dT)
primer. Five prime end enriched, double-strand cDNA was
digested with Not I and cloned into the Not I and EcoR V
sites of the pCMVSPORT 6 vector. Library was normalized."
/note="Organ: root; Vector: prinjEx2; cDNA library of roots from two-month-old Populus trichocarpa Torr. & Gray x deltoides Bartr. Ex Marshall (clone 'Beaupre') grown for 19 days under restricted irrigation to reach 50% of the transpiration rate of fully watered plants. The cDNA library was constructed from 1 ug of total RNA using the SMART cDNA synthesis kit (Clontect, Palo Alto, CA, USA) according to the manufacturer's instructions. The resulting cDNA was packed into lambda phages using the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /clone="CS0DI052YB18"
                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Populus balsamifera subsp. trichocarpa Populus deltoides"
                                                                                                                                                                                                                                                              /dev stage="two-month-old"
/clone_lib="two-month-old roots from clone 'Beaupre' grown
for 19 days under restricted irrigation"
                                                                                                                                                                                                                                                                                                                                                                                 'mol_type="mRNA"
'cultivar="'Beaupre'"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ocation/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                         _xref="taxon:3695"
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Pred. No. 25
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; asterids; lamids; Solanales; Solanaceae; Nicotiana.

1 (bases 1 to 853)

Buell, C.R., Hart, A., Zismann, V., Karamycheva, S.A., Day, B., Staskawicz, B., Jin, H. and Baker, B.
Generation of EST sequences from Nicotiana benthamiana Unpublished (2003)
Other ESTs: EST760192
Other ESTs: EST760192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CK297477

853 bp mRNA linear EST 15-DEC-2003
EST760191 Nicotiana benthamiana mixed tissue cDNA library,
normalized, full-length Nicotiana benthamiana cDNA clone NBMD912 5'
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Email: potato-array@tigr.org
Clones can be requested from TIGR via potato@tigr.org
Seg primer: ATT TAG GTG ACA CTA TAG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Contact: Robin Buell
The Institute for Genomic Research
9712 Medical Center Dr, Rockville,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nicotiana benthamiana
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/clone lib="Nicotiana benthamiana mixed tissue cDNA library, normalized, full-length" /note="Vector: pCMVSport6.1; Site_1: EcoRI; Site_2: NotI; supplier: RNA was isolated from Nicotiana benthamiana tissues that include callus, roots from liquid culture grown plants, heat-stressed leaves (38 C, 3 hr and 6 hr), cold-stressed leaves (5 C 3 hr, 6hr), and pathogen challenged leaves (9 ceudomonas syringae pv tomato 12 hr; Xanthomonas campestris pv campestris 12 hr, 18hr; Pseudomonas syringae pv phaseolicola 18hr, and Xanthomonas campestris pv vesicatoria 18hr). RNA was isolated from these tissues and pooled in approximately equal molar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gigapack III Gold packaging kit (Stratagene, La Jolla, CA). The pTriplEx2 phagemid clones in Escherichia choli were obtained by using the mass in vivo excision protocol according to the manufacturer's instructions (Clontech)."
                                                                                                                                                                                                                                                                                                     /tissue_type="abiotic and biot
callus tissue and root tissue"
/lab_host="DH10B-TonA"
                                                                                                                                                                                                                                                                                                                                                                              /organism="Nicotiana benthamiana', mol_type="mdNA" |
/mol_type="mdNA" |
/db_xref="taxon:4100" |
/clone="NBMD912"
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Best Local Similarity
Matches 103; Conserv

10.7%;

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Score 34.6; D: Pred. No. 25; 0; Mismatches

DB 14; 114;

Length 853; Indels

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Gaps

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REFERENCE
AUTHORS
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BI144284
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Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA ibbraries for rapid discovery of new genes. Genome Res. 10 (10), 1617-1630 (2000)

RIKEN integrated sequence analysis (RISA) system--384-format sequencing pipeline with 384 multicapillary sequencer. Genome Res. 10 (11), 1757-1771 (2000)

Computer-based methods for the mouse full-length cDNA encyclopedia: real-time sequence clustering for construction of a nonredundant cDNA library. Genome Res. 11 (2), 281-289 (2001)

cDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken contributed to prepare mouse research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          304
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tissues were provided by Dr. John Todd (Dept. of Medical Genetics Wellcome Trust Centre for Molecular Mechanisms in Disease Wellcome Trust/MRC building Addenbrookes Hospital Cambridge) whose assistance we gratefully acknowledge.

Please visit our web site (http://genome.gsc.riken.go.jp) for
                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutel Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Muri (Dases 1 to 808)

NIH-MGC http://mgc.nci.nih.gov/.

National Institutes of Health, Mammalian Gene Collection (Dipublished (1999))
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              prepare mouse tissues
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Jeffrey E. Green, M.D.
cDNA Library Preparation: hife Technologies,
                                                                                Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                   Mus musculus (house mouse)
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BI144284.1 GI:14604285
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/tissue_type="activated spleen"
/clone_lib="RIKEN full-length en
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Mus musculus"
/mol_type="mRNA"
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                                                                                                   more information about the http://www.genoscope.cns.fr/
cgi_bin/cluster.cgi?seq=CSOAI052DA090p1&cluster=4682.r. Contact
cgi_bin/cluster.cgi?seq=CSOAI052DA090p1&cluster=4682.r. Contact
Feng Liang Email : fliang@lifetech.com URL :
http://fulllength.invitrogen.com/ InVitroGen Corporation 1600
http://fulllength.invitrogen.com/ CSOAI052DA09QP1.
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                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 1201)

Li,W.B., Gruber,C., Jessee,J. and Polayes,D.

Full-length cDNA libraries and normalization

Unpublished (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BX387771 1201 bp mRNA linear EST 08-MAY-200 BX387771 Homo sapiens PLACENTA COT 25-NORMALIZED Homo sapiens CDNA clone CS0DI052YB18 5-PRIME, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   High quality sequence start: 6
High quality sequence stop: 793.
Location/Qualifiers
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                                                                                                                                                                                                                                                  Email: segref@genoscope.cns.fr, Web: www.genoscope.cns.fr
Library was constructed by Life Technologies, a division of
Invitrogen. This sequence belongs to sequence cluster 4682.r
more information about this cluster, see
                                                                                                                                                                                                                                                                                                                                                      Contact: Genoscope
Genoscope - Centre National de Sequencage
BP 191 91006 EVRY cedex - France
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens (human)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GATCTGAAGACTCTAACCTTTGGTCTCATTGCCGTTGCGATTACAGTGGTGGCGCATCTT 252
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTTCAGAGGATAGAAGCCTTGGGTTTCAAAGCTTTGGTGGTCACTGTAGATGCGCCTGTA
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/clone="IMAGE:5064373"
/clone="IMAGE:5064373"
/lab host="DH10B (T1 phage-resistant)"
/clone_lib="NCI_CGAP_Kid14"
/note="Organ: kidney; Vector: pCMV-SPORT6; Site_1: Not1;
Site_2: SalI; Cloned unidirectionally. Primer: Oligo dT
Average insert size 1.75 kb. Constructed by Life
Technologies. Note: this is a NCI_CGAP_Library. | "
/organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
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strain="FVB/N"
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Pred. No. 21;
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VERSION
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Best Local S
Matches 64
                                                                                      Query Match
Best Local S
Matches 62
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                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                      Determination of this BAC-end sequence was carried out as part of a collaboration with the Berkeley Drosophila Genome Project (BDGP). The BDGP is constructing a physical map of the Drosophila melanogaster genome using these BACs. For further information please see http://www.fruitfly.org The BDGP Drosophila melanogaster BAC library was prepared by Kazutoyo Osoegawa and hazon Mammoser in Pieter de Jong's laboratory in the Department of Cancer Genetics at the Roswell Park Cancer Institute in Buffalo, NY. The library is named RPCI-98 and was constructed by partial EcoRI digestion of Drosophila DNA provided by the BDGP from the isogenic strain y2; on bw sp, the same strain used for the BDGP's p1 and EST libraries. A more detailed description of the library and how to order individual BAC clones, the entire library, or filters for hybridization from the BACPAC Resource Center can be found at http://bacpac.med.buffalo.edu/drosophila_bac.htm.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               192 AGATCTGAAGACTCTAACCTTTGGTCTCATTGCCGTTGCGATTACAGTGGTGGCGCATCT
          847
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Drosophila melanogaster (fruit fly)
Drosophila melanogaster
Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1+y), genomic
AL056828
                                                                                    l Similarity
62; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (02-JUN-1999) Genoscope - Centre National de Sequencage BP 191 91006 EVRY cedex - FRANCE (B-mail : segref@genoscope.cns.fr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AL056828.1 GI:4937496 GSS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CNS00BD8 1101 bp DNA linear GSS 04 Drosophila melanogaster genome survey sequence TET3 end of BACR23H11 of RPCI-98 library from Drosophila melanogaster fly), genomic survey sequence.
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          TTGSGKTGGTTGSGTAASDTGTTTATATTSTTTTBSKBTSTBTSKNAATKTWSASSTTTT 906
                                        TIGITETCGCAGIATETGCAGICATIACITITGCGCTCCGGGCGGTTCCTTAATCC 88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGTTGCGGCGATCCTCGCTGGCGAACGACCGCGATGGCTGCCCCGTGTTT
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milarity 57.1%;
Conservative
                                                                                  10.9%;
ilarity 24.4%;
Conservative 81
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/db xref="taxon:4577"
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/clone lib="ZM 0.6 1.0 KB"
/note="Vector: pCR4-TOPO; S
                                                                                                                                                                                   /organism="Drosophila melanogaster"
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/db_xref="taxon:7227"
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/clone="BPCR23H1"
/clone lib="RPCI-98"
/note="end : TET3"
                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
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; Pred. No. 17;
0; Mismatches
                                                                                    ; Score 35.2; DB 29; pred. No. 18; 81; Mismatches 111;
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of BAC #
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ORGANISM
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RES Okazaki, Y., Furuno, M., Kasukawa, T., Adachi, J., Bono, H., Kondo, S., Nikaido, I., Osato, N., Saito, R., Suzuki, H., Yamanaka, I., Kiyosawa, H., Yagi, K., Tomaru, Y., Hasegawa, Y., Nogami, A., Schonbach, C., Gojobori, T., Baldarelli, R., Hill, D.P., Bult, C., Hume, D.A., Quackenbush, J., Schriml, L.M., Kanapin, A., Matsuda, H., Hume, D.A., Quackenbush, J., Schriml, L.M., Kanapin, A., Matsuda, H., Batalov, S., Beisel, K.W., Blake, J.A., Bradt, D., Brusto, V., Chothia, C., Corbani, L.E., Cousins, S., Dalla, E., Dragani, T.A., Fletcher, C.F., Forrest, A., Frazer, K.S., Gasterland, T., Gariboldi, M., Gissi, C., Godzik, A., Gough, J., Grimmond, S., Kawaji, H., Kawasawa, Y., Kedzierski, R.M., King, B.L., Konagaya, A., Kawaji, H., Kawasawa, Y., Kedzierski, R.M., King, B.L., Konagaya, A., Kawaji, H., Kawasawa, Y., Lenhard, B., Lyons, P.A., Maglott, D.R., Numata, K., Okido, T., Pavan, W.J., Pertea, G., Pesole, G., Numata, K., Okido, T., Pavan, W.J., Pertea, G., Pesole, G., Ravasi, T., Reed, J.C., Reed, D.J., Raid, J.J., Ramachandran, S., Verardo, R., Wagner, L., Wahlestedt, C., Wang, P.A., Maglott, P., Waltana, R., Takenaka, Y., Taylor, M.S., Teasdale, R.D., Tomita, M., Yang, L., Yang, L., Waltanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Watanabe, Y., Wa
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BY765711 RIKEN full-length enriched, activated spleen
CDNA clone F830034E14 3', mRNA sequence.
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                                                                                                                                                                  Contact: Yoshihide Hayashizaki
Laboratory for Genome Exploration Research Group,
Sciences Center (GSC), Yokohama Institute
The Institute of Physical and Chemical Research (I
1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa
Tel: 81-45-503-9222
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EST.
Email: genome-res@gsc.riken.go.jp,
URL:http://genome.gsc.riken.go.jp/
Adachi,J., Aizawa,K., Akimura,T., Arakawa,T., Carninci,P.,
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22354683
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
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                                                                                                                                        Fax: 81-45-503-9216
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        Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Ehrhartoideae; Oryzae; Oryza.

1 (bases 1 to 475)

Kim,J.S., Jun,K.M., Cheong,P.J., Kim,M.J., Lee,T.H., Shin,Y.C., Song,S.I., Kim,J.K., Kim,Y.-K. and Nahm,B.H.
Large-scale Sequencing Analysis of Rice ESTs

Unpublished (2003)
                                                                                                                                                                                                                                                     786 bp DNA linear GSS 24-FEB-2003
PUCFW05TD ZM 0.6 1.0 KB Zea mays genomic clone ZNMBTa137A09,
genomic survey sequence.
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     Whitelaw, C.A., Quackenbush, J., Van Aken, S.,
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/lab_host="E-Coli DH108"
/clome lib-"AtcMT-overexpressing transgenic rice plasmid
cDNA library (JMT)"
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/mol_type="mRNA"
/cultivar="Nackdong"
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/clone="JMT--08-M05"
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1 (bases 1 to 910)

1 (bases 1 to 910)

1 (bases 1, Ouackenbush, J., Van Aken, S., Utterback, T., Resnick, A., Fraser, C.M., Yuan, Y., San Miguel, P., Ma, J. and Bennetzen, J.
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genomic survey sequence.
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Maize Genomics Consortium
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Fax: 301-838-0208
                                                                                                                                                            9712 Medical Center Drive,
Tel: 301-838-5843
Fax: 301-838-0208
Email: whitelaw@tigr.org
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/clone lib="ZM_0.6 1.0 KB"
/note="Vector: pCR4-TOPO; Site_1:
CoT selected genomic DNA library"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 35.2; DE Pred. No. 16; 0; Mismatches
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                                                                                                                                                                                                                                          Rockville,
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REFERENCE
AUTHORS
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BZ557685
LOCUS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   164 CCGCATCAACGTTTCGCAGCAATGCGATAGATCTGAAGACTCTAACCTTTGGTCTCATTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cancer Genetics at the Roswell Park Cancer Institute in Buffalo, NY. The library is named RPCI-98 and was constructed by partial EcoRI digestion of Drosophila DNA provided by the BDGP from the isogenic strain v2; cn bw sp, the same strain used for the BDGP's pl and EST libraries. A more detailed description of the library and how to order individual BAC clones, the entire library, or filters for hybridization from the BACPAC Resource Center can be found at http://bacpac.med.buffalo.edu/drosophila_bac.htm.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1353 bp DNA pacs1-60 663.81 pacs1-60 Pseudomonas a pacs1-60-663, genomic survey sequence. BZ557685
                                                                                                                                                                                                                                                                                                                                                                                             1 (bases 1 to 1353)
Spencer,D.H., Raymond,C.K., Smith,B.E., Sims,B.E., Hastings,M., Spuncer,D.H., Kaul,R. and Olsen,M.V.
Whole-Genome-Sequence variation among multiple isolates of Psedomonas acruginosa library
J. Bacteriol. (2002) In press
                                                                                                                                                                                                                                                                                              Box 352145, Seattle,
Tel: 2062216954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pseudomonas aeruginosa
Bacteria; Proteobacteria; Gammaproteobacteria; Pseudomonadales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BZ557685.1
                                                                                                                                                                                                                                                                                                                                     University of Washington
                                                                                                                                                                                                                                                                                                                                                                           Contact: Chris K. Raymond
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pseudomonas aeruginosa
                                                                                                                                                                                                                                                                        Fax: 206685724
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                                                                                                                                                                                                                                                                                                                                                    Center
                                                                                                                                                                                                                                  shotgun
                                                                                                                                                                                                                                                  craymond@u.washington
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/mol_type="genomic DNA"
/db_xref="taxon:7227"
/clone="BACR12G04"
/clone="BACR12G1"
/clone lib="RPCI-98"
/note="end : TET3"
                 library."
                                   /clone="pacs1-60_663"
/clone_lib="pacs1-60"
/note="clinical isolate 1-60 Whole
                                                                                                                                                               /organism="Pseudomonas
                                                                                                                                                                                                       Location/Qualifiers
                                                                                                         db xref="taxon:287"
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                                                                                                                                          type="genomic DNA"
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Pred. No. 2.9;
1; Mismatches
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                                                                                                                                                                 aeruginosa"
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RESULT 3
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Best Local
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Matches
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                                                                                                                                                                                                                       Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          204 TCTAACCTTTGGTCTCATTGCCGTTGCGATTACAGTGGTGGCGCATCTTCTTGGCGGTCG 263
104
                                                                  164
                                                                                                 111 ATTTGTGGGCAAAATGGCGATGTGGATGCCAGCAGGAATCCTTGCCATTTTGACCGCATC 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             86
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 (bases 1 to 471)
Kim, J.S., Jun, K.M., Cheong, P.J., Kim, M.J., Le
Song, S.I., Kim, K.M., Kim, Y.-K. and Nahm, B.H.
Large-scale Sequencing Analysis of Rice ESTs
Unpublished (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CF302597
7LEAF--08-E15.b1 Rice leaf plasmid cDNA library II (7LEAF) Oryza sativa cDNA clone 7LEAF--08-E15, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Genomics and Genetics Institute, GreenGene Biotech I of Bioscience and Bioinformatics, MyongJi University Yongin, Kyeonggi, Korea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Ehrhartoideae; Oryzeae; Oryza.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Oryza sativa
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Yongin, Kyeonggi, Ko
Tel: 82 31 330 6193
Fax: 82 31 321 6355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Contact: Nahm B.H.
                                                                                                                                                                                                      Similarity 50.
B5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCGCCAGGGGTTCTCGATCGGGGTGTCGTCGGCGTTGTCGGTGGCCAGGT 196
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                               AACGTTTCGCAGCAATGCGATAGATCTGAAGACTCTAACCTTTGGTCT
                                                                  CGGGCTTGTCGCCGTCTCACTGAGCTTGGCAGCCGGCTCCTTGGCAAGTCCGGCAGGTTT
                                                                                                                                    CCTTCTTCTTGGGCTCCCGGGGCTTCTGCTCAGCCTTCTTGACGCCGCCCTTGGCGGCCC
                                                                                                                                                                 CATTACTTTTGCGCTCCGGGCGGTTCCGTTCTTAATCCTTAAGCCCCTACGTGAATCACA 110
 CACGGCCTTCAGAGAAGCCATTCTTCTGATGCTTCTCTGCTCTGTTCT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    bhnahm@ggbio.com, bhn
Location/Qualifiers
                                                                                                                                                                                                                                                                                                  /db xref="taxon:4530"
/clone="7IEAF-08-EL5"
/tissue_type="1eaf"
/dev_stage="7 days after germination"
/lab_host="E.coli DHIOB"
/clone_lib="Rice_leaf_plasmid cDNA_library_II_(7LEAF)"
/clone_lib="Rice_leaf_plasmid cDNA_library_II_(7LEAF)"
/note="Vector: pCR4-TOPO; Site_l: EcoRI; mRNA_was capped
with oligoribonucleotides and then used as templates for
pr_pro_"
                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Oryza sativa"
/mol_type="mRNA"
/cultivar="Nackdong"
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57.7%;
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Pred. No. 13;
O; Mismatches
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Pred. No. 1
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                                                                                                                                                                                                                                         DB 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .myongji.ac.kr
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                                                                                                                                                                                                                                       Length 471;
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RESULT 4 CF338060/c

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Maximum Match 100%
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Maximum DB
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                                            Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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Gapop 10.0 , Gapext 1.0
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gb_est6:*
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em_gss_vrt:
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                            SUMMARIES
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                                                       REFERENCE
AUTHORS
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VERSION
KEYWORDS
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ALIGNMENTS

Drosophila melanogaster genome survey sequence TET3 end of BAC #BACR12G04 of RPCI-98 library from Drosophila melanogaster (fruit fly), genomic survey sequence.

AL060428 AL060428.1 GI:4943359
GSS. - Web: www.genoscope.cns.fr)

Determination of this BAC-end sequence was carried out as part of collaboration with the Berkeley Drosophila Genome Project (BDGP). The BDGP is constructing a physical map of the Drosophila melanogaster genome using these BACs. For further information please see http://www.fruitfly.org The BDGP Drosophila melanogaster BAC library was prepared by Kazutoyo Osoegawa and Aaron Mammoser in Pieter de Jong's laboratory in the Department of Drosophila melanogaster
Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
1 (bases 1 to 995) Direct Submission
Submitted (02-JUN-1999) Genoscope - Centre National de Sequencage :
BP 191 91006 EVRY cedex - FRANCE (E-mail : seqref@genoscope.cns.fr Drosophila melanogaster (fruit fly)

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3557

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CNS005NG BZ557685 CF302597 CF338060

AL060428 Drosophil BZ557685 pacs1-60 CF302597 7LEAF--08 CF338060 JMT--08-M

Score

Length

B

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Description

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APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(5355)B
CURRENT APPLICATION NUMBER: US/10/767,701
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 27384
LENGTH: 490
TYPE: Nov.
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US-10-796-280-12378
; Sequence 12378, Application US/10796280
; GENERAL INFORMATION:
; APPLICANT: CARGILL, Michele et al.
; TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
; TITLE OF INVENTION: STENOSIS, METHODS OF DETECTION AND USES THEREOF
; FILE REPERENCE: CL001510
; FILE REPERENCE: CL001510
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; LOCATION: (1)...(234309)
; OTHER INFORMATION: n = A,T,C or G, or insertion/deletion polymorphism (see Tables 1.US-10-796-280-12378)
                                                                                                                                                              ; OTHER INFORMATION: Clone ID: 6858297 US-10-767-701-27384
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CURRENT FILING DATE: 2004-03-10
NUMBER OF SEQ ID NOS: 68533
SOFTWARE: PastSEQ for Windows Version 4.0
SEQ ID NO 12378
LENGTH: 234309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 8.8%;
Best Local Similarity 52.5%;
Matches 62; Conservative
                                                                            Query Match 8.7%;
Best Local Similarity 51.2%;
Matches 66; Conservative
                                                                                                                                                                                                                       TYPE: DNA
ORGANISM: Sorghum bicolor
                                                                                                                                                                                                     FEATURE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           206 TAACCTTTGGTCTCATTGCCGTTGCGATTACAGTGGTGGCGCATCTTCTTGGCGGTCGAC 265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           238 GIGGIGGCGCAICTICTIGGCG 259
282 AGGTGTTACCAGTGTAGCAGTTGGTGTAGCTGCCAGAGGCAGCGGAGTGGAGCCAGCGCC 223
                                     192 AGATCTGAAGACTCTAACCTTTGGTCTCATTGCCGTTGCGATTACAGTGGTGGCGCATCT 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCACCTCAGGCCTCTTTAAGCCTGAAGAAGCGTGGGCCCTACATCTGCTTTTAGTTTTCA 62097
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Pred. No. 5.8;
0; Mismatches
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Pred. No. 81;
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Search completed: April 17, 2004, 20:13:04 Job time : 39.4407 secs

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RESULT 11

US-10-796-280-12417/c

i Sequence 12417, Application US/10796280

i GERRAL INFORMATION:

APPLICANT: CARGILL, Michele et al.

TITLE OF INVENTION: STENOSIS, METHODS OF DETECTION AND USES THEREOF

TITLE OF INVENTION: STENOSIS, METHODS OF DETECTION AND USES THEREOF

FILE REFERENCE: CL001510

CURRENT APPLICATION NUMBER: US/10/796,280

CURRENT FILING DATE: 2004-03-10

NUMBER OF SEQ ID NOS: 68533

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 12417

LENGTH: 20618
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CURRENT APPLICATION NUMBER: US/10/108,605A
CURRENT FILING DATE: 2002-03-27
CURRENT FILING DATE: 2002-03-27
PRIOR APPLICATION NUMBER: US 09/761,142
PRIOR FILING DATE: 2001-01-16
PRIOR FILING DATE: 2000-01-14
PRIOR FILING DATE: 2000-01-14
NUMBER OF SEQ ID NOS: 361
SOFTWARE: PATENTIN Ver. 2.1
SEQ ID NO 248
LENGTH: 8577
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US-10-108-605A-248/c
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Best Local S
Matches 47
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              Query Match 8.8%;
Best Local Similarity 51.6%;
Matches 65; Conservative
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APPLICANT: Stam, Lynn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: BACCHMANN, Jane
APPLICANT: KAMDAY, Kim
TITLE OF INVENTION: NUCLEIC ACID SEQUENCES FROM DROSOPHILA MELANOGASTER THAT ENCODE
TITLE OF INVENTION: PROTEINS ESSENTIAL FOR LARVAL VIABILITY AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: DNA ORGANISM: Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    203
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; Pred. No. 18;
O; Mismatches
                    Score 28.4; I
Pred. No. 27;
0; Mismatches
                                                                    DB 6;
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                      61,
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                                                                    Length 20618;
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                         Indels
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                                                                                                                                                                                                                                                      Sequence 12452, Application US/10796280

GENERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: STENOSIS, METHODS OF DETECTION AND USES
FILE REFERENCE: CL001510
CURRENT APPLICATION NUMBER: US/10/796,280
CURRENT FILING DATE: 2004-03-10
NUMBER OF SEQ ID NOS: 68533
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 12452
LENGTH: 69359
TYPE: DNA
TYPE: DNA
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TITLE OF INVENTION: GENETIC POLYMORPHISMS AS
TITLE OF INVENTION: STENOSIS, METHODS OF DE
FILE REFERENCE: CL001510
CURRENT APPLICATION NUMBER: US/10/796,280
CURRENT FILING DATE: 2004-03-10
NUMBER OF SEQ ID NOS: 68533
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 12418
LENGTH: 46075
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US-10-796-280-12418
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US-10-796-280-12452
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Matches
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Best Local
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nes 65; Conserv
15661 ĠĠĊĀĀĀGTĠĠĠĠĀTTAĠĀĀACTAGĠĊĀGTTTGACTCCAGĀGTCTĠTGCCCCTGTCCACTT 15720
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Similarity 50.0%;
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                                             GGCAAAATGGCGATGTGGATGCCAGCAGGAATCCTTGCCATTTTGACCGCATCAACGTTT
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GENETIC POLYMORPHISMS ASSOCIATED WITH
STERNOSIS, METHODS OF DETECTION AND USES THEREOF
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Pred. No. 39;
0; Mismatches
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Pred. No. 47;
O; Mismatches
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US-10-650-609-1/c
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US-10-451-467A-545
                                                                                                                                               FILE REFERENCE: JAB-1667
CURRENT APPLICATION NUMBER: US/10/451,467A
CURRENT FILING DATE: 2003-06-19
PRIOR APPLICATION NUMBER: EP 00870318.3
PRIOR FILING DATE: 2000-12-22
PRIOR APPLICATION NUMBER: EP 01870002.1
PRIOR APPLICATION NUMBER: EP 01870003.9
PRIOR FILING DATE: 2001-01-04
PRIOR APPLICATION NUMBER: EP 01870003.9
PRIOR FILING DATE: 2001-01-09
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SEQ ID NO 545
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APPLICANT: Wangor, Michael
TITLE OF INVENTION: METHODS OF TREATING AGE-RELATED DEFECTS AND DISEASES
FILE REFERENCE: 02-1040-A
CURRENT APPLICATION NUMBER: US/10/650,609
CURRENT FILING DATE: 2003-08-28
CURRENT FILING DATE: 2003-08-28
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PRIOR FILING DATE: 2002-11-13
NUMBER OF SEQ ID NOS: 3
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APPLICANT: Wang, Xinhe
APPLICANT: Tan, Yongjun
                                                                                                                                                                                                                                                                                                                                              APPLICANT: LUYTEN, WALTER HERMAN MARIA LOUIS
APPLICANT: REEKWANS, RIEKA JOSEPHINA
TITLE OF INVENTION: BAX-RESPONSIVE GENES FOR I
TITLE OF INVENTION: YEAST AND FUNGI
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APPLICANT: EBERHARDT, INES
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                                                                                                                            NUMBER OF SEQ ID NOS:
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                TYPE: DNA
ORGANISM: Candida albicans
                                                               ENGTH: 3042
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Krupczak-Hollis,
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Pred. No. 9.
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US-10-767-701-21673/c Sequence 21673, Application US/10767701 GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                         PCT-US04-02000-767/c; Sequence 767, Application PC/TUS0402000; GENERAL INFORMATION:
                                                                              PCT-US04-02000-767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(53535)8
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 631/28
SEQ ID NO 21673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8.8%;
sest Local Similarity 53.6%;
Matches 59; Conservation
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Best Local Similarity
                                                                                                                                 SOFTWARE: PatentIn version 3.2
SEQ ID NO 767
LENGTH: 500
Query Match
Best Local Similarity
Matches 68; Conserv
                                                                                                                                                                                         TITLE OF INVENTION: Method and System for Identifying Biological Entities TITLE OF INVENTION: Method and System for Identifying Biological Entities EILE REFERENCE: 36609-183264 (SAICTORST-PCT)

CURRENT APPLICATION NUMBER: PCT/US04/02000

CURRENT FILING DATE: 2004-01-23

PRIOR APPLICATION NUMBER: US 60/441,745

PRIOR FILING DATE: 2003-01-23

PRIOR PILING DATE: 2003-01-23

PRIOR PILING DATE: 2003-01-23

PRIOR PILING DATE: 2003-01-23

PRIOR PILING DATE: 2003-01-23

NUMBER: OF SEQ ID NOS: 3242
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ORGANISM: Sorghum bicolor
FEATURE:
                                                                                                TYPE: DNA
ORGANISM: Escherichia
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                  8.8%;
; Score 28.4; D; Pred. No. 4.9; O; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches
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Pred. No. 9.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 28.4;
Pred. No. 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
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6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 6;
                                     DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     51;
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      66;
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                                         Length 500;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 312;
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      Gaps
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US-10-767-471-10749/c
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 36, Appl
GENERAL INFORMATI
                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 10749, Application US/10767471.

GENERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.

TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: RHEUMATOID ARTHRITIS, METHODS OF DETI
ETTE DEPENDENCE. CARACTER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ ID NO 36
LENGTH: 13350
                                                                                                                                                                                                                                                                                      FILE REFERENCE: CL001505
CURRENT APPLICATION NUMBER: US/10/767,471
CURRENT FILING DATE: 2004-01-30
NUMBER OF SEQ ID NOS: 50231
SOPTWARE: FREESEQ for Windows Version 4.0
SEQ ID NO 10749
LENGTH: 35895
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                           Query Match
Best Local Similarity
Matches 65; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION NUMBER: US/10/789,400 CURRENT FILING DATE: 2004-02-27 CRICA PPLICATION NUMBER: US 60/451,119 PRIOR FILING DATE: 2003-02-28 PRIOR APPLICATION NUMBER: US 60/478,667 PRIOR PILING DATE: 2003-06-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Murphy, Brian R.
TITLE OF INVENTION: RECOMBINANT HUMAN METAPNEUMOVIRUS
FILE REFERENCE: 4239-67783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
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                                                                                                                                                                 PEATURE: NAME/KEY: misc_feature
LOCATION: (1)...(35895)
OTHER INFORMATION: n = A,T,C or G,
                                                                                                                                                                                                                                                   TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: DNA ORGANISM: human metapneumovirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
les 79; Conserv
        12662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1747
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        GCCTCTCACCCACTGCTCTTGGGTTTGTCTTGGCAGCAAGAGCCCATCCTCCTGGCTG 12603
                                        GACTCTAACCTTTGGTCTCATTGCCGTTGCGATTACAGTGGTGGCGCATCTTCTTGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGATGCCAGCAGGAATCCTTGCCATTTTGACCGCATCAAC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTTCATCATTAAGCATTGAGGCCAGATTGGAATCAATAGAGGAGAAATTAAGCATGATAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Colling, Step...
Biacchesi, Step...
Biacchesi, Step...
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                                                                               Conservative
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                                                                                                52.8%;
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                                                                             Score 30.2; DB Pred. No. 8.2; 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 30.4; DB 6;
Pred. No. 4.5;
0; Mismatches 81;
                                                                                                                                                                              or insertion/deletion polymorphism (see Tables
                                                                                                                    DB 6;
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                                                                                 58;
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                                                                                                                    Length 35895;
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                                 S
                                                                                                                                                          US-10-767-471-10669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 5
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APPLICANT: Cao, Yongwei
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21 (53555) BC CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT APPLICATION UNDER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 5423
LENGTH: 731
                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION NUMBER: US/10/767,471
CURRENT FILING DATE: 2004-01-30
NUMBER OF SEQ ID NOS: 50231
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 10669
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 10669, Application US/10767471
GENERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 5423, Application US/10767701 GENERAL INFORMATION:
                                                                             Matches
                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: RHEUMATOID ARTHRITIS, METHODS OF DETECTION AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                         FILE REFERENCE: CL001505
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: DNA
ORGANISM: Sorghum bicolor
FEATURE:
                                                                                                                                                                      NAME/KEY: misc_feature
LOCATION: (1)...(158027)
OTHER INFORMATION: n = A,T,C or G, or insertion/deletion polymorphism
                                                                                                                                                                                                                                TYPE: DNA ORGANISM: Homo sapiens FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OTHER INFORMATION: Clone ID:
                                                                                                                                                                                                                                                                                           LENGTH:
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                                                                                             Local
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                                     48 AGTCATTACTTTTGCGCTCCGGGCGGTTCCGTTCTTAATCCTTAAGCCCCTACGTGAATC
                                                                                                                                                                                                                                                                                             158027
                                                                             54;
                                                                        h 8.9%;
Similarity 54.0%;
54; Conservative
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  AGTCTTTGAATCTTYACCCACAGCTGCTATGGTCTGAATATCTGTGTCCCTCCAAAATTC
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                                                                        Score 28.8; D
Pred. No. 50;
2; Mismatches
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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                seq length: 0
seq length: 2000000000
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Gapop 10.0 , Gapext 1.0
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(without alignments)
5694.647 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1362413 segs, 329030602 residues
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| Cgm2_6/ptodata/1/pna/PCT_NEW_COMB.seq:*
| Cgm2_6/ptodata/1/pna/US06_NEW_COMB.seq:*
| Cgm2_6/ptodata/1/pna/US07_NEW_COMB.seq:*
| Cgm2_6/ptodata/1/pna/US08_NEW_COMB.seq:*
| Cgm2_6/ptodata/1/pna/US08_NEW_COMB.seq:*
| Cgm2_6/ptodata/1/pna/US08_NEW_COMB.seq:*
| Cgm2_6/ptodata/1/pna/US08_NEW_COMB.seq:*
| Cgm2_6/ptodata/1/pna/US08_NEW_COMB.seq:*
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                                                            8.9 158027

8.8 2737

8.8 3042

8.8 312

8.8 57

8.8 46075

8.8 63075

8.8 7 77294

8.7 77294

8.7 77294

8.6 5248

8.6 52178

8.6 2178

8.6 2178
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9.4 13350
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                          US-10-108-605A-248
US-10-796-280-12417
US-10-796-280-12452
US-10-796-280-127348
US-10-796-280-127348
US-10-767-701-25301
PCT-US03-38500-1
US-10-767-701-2761
US-10-767-701-2761
US-10-767-701-2761
US-10-767-701-29783
US-10-10-683-1036
PCT-US04-0829-18
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US-10-789-400-36

US-10-767-471-10749

US-10-767-701-5423

US-10-767-471-10669
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US-10-451-467A-545
US-10-767-701-21673
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Sequence 716, App Sequence 10749, A Sequence 10749, A Sequence 10749, A Sequence 1. Appl Sequence 1. Appl Sequence 1. Appl Sequence 248, App Sequence 12417, A Sequence 12417, A Sequence 12452, A Sequence 12378, A Sequence 27314, A Sequence 27314, A Sequence 12228, A Sequence 12228, A Sequence 12228, A Sequence 2761, Appl Sequence 2460, App Sequence 2460, App Sequence 1036, App Sequence 1036, App Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 135, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence 18, Appl Sequence
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Best Local S
Matches 65
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Result

Score

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RESULT

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	US-10-417-884A-1659	US-60-545-213-4448	US-60-545-213-4447	US-60-545-213-176	US-60-545-213-175	US-10-765-790-27	US-10-100-683-5402	US-10-771-241-144	US-10-767-701-12271	US-10-767-701-18755	US-10-796-307-8720	US-10-796-280-12200	US-10-796-280-12303	US-10-767-701-29976	US-10-796-307-18171	US-10-767-471-27441	US-10-767-471-27293	US-10-100-683-3274
Sequence 40, Appl	Ġ	4	e 4447		ហ	Sequence 27, Appl	Sequence 5402, Ap	e 144,	Sequence 12271, A	'n	Sequence 8720, Ap	(D	•	e 29976,	e 18171,	e 2744	~	74,

ALIGNMENTS

Minimum DB Maximum DB

Scoring table: Sequence: Title: Perfect score: Run on: OM nucleic -

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APPLICANT: LITTLE, RANDALL
APPLICANT: UAN EERDEWEGH, PAUL
APPLICANT: DUPUIS, JOSEE
APPLICANT: DEL MASTRO, RICHARD
APPLICANT: DEL MASTRO, RICHARD
APPLICANT: SIMON, JASON
APPLICANT: ALLEN, KRISTINA
APPLICANT: PANDIT, SUNIL
TITLE OF INVENTION: NUCLEGOTIDE AND AMINO ACID SEQUENCES RELATING TO
TITLE OF INVENTION: RESPIRATORY DISEASES AND OBESITY
FILE REFERENCE: 2976-4044US1
CURRENT APPLICATION NUMBER: US/10/021,698A
CURRENT APPLICATION NUMBER: 05/211,749
PRIOR APPLICATION NUMBER: 60/211,749
PRIOR APPLICATION NUMBER: 60/211,749
PRIOR APPLICATION NUMBER: 60/211,749
PRIOR FILING DATE: 2000-06-14
NUMBER OF SEQ ID NOS: 6160
SOFTWARE: Patentin 2.1
SEQ ID NO 716
LENGTH: 173233
문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 716, Application US/10021698A
GENERAL INFORMATION:
APPLICANT: KEITH, TIM
APPLICANT: LITTLE, RANDALL
APPLICANT: VAN BERDEWEGH, PAUL
                                                                                                                                                                                                                                                                                              FEATURE:
NAME/KEY: modified base
LOCATION: (88987)...(89086)
OTHER INFORMATION: a, t, c o:
FEATURE:
NAME/KEY: modified base
LOCATION: (167286)...(167385)
OTHER INFORMATION: a, t, c o:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: DNA ORGANISM: Homo sapiens
84548
                                                                                                                              200 AGACTCTAACCTTTGGTCTCATTGCCGTTGCGATTACAGTGGTGGCGCATCTTCTTGGCG
                                                                                                                                                                              ch 10.2%;
1 Similarity 55.1%;
65; Conservative
                                          GTCGACGCACCTTGTTGAGCGTTGGCGCTGGCACCATCGTTTTTGTTGGACTGGTGAA 317
                                                                                            AGAATCTAAGCCTTGACCAAATATGTGTTACTATTACTTTTGTTGTTGTTGTTCTGG 84547
GTAACTCCAACCCTCTGCTCGTTGGCCTTGTCACCTCAGTGCTGATTTTGCAGATGAA 84605
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                                                                                                                                                                                                                                  Length 173233;
                                                                                                                                                                                     Indels
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ADDRESSEE: Woodcock Washburn Kurtz Mackiewicz &
ADDRESSEE: No. 603115018
STRETT: Opt. Liberty Place 46th. Floor
CITY: Philadelphia
STATT: PA
COUNTY: Philadelphia
STATT: PA
COUNTY: Philadelphia
COUNTY: Wish
COUNTY: USA
ZI: 1910
COUNTY: USA
ZI: 1910
COUNTY: USA
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COUNTY: USA
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CONPUTER READABLE FORM:
MCDUIM TYPE: PAOPY disk
COMPUTER READABLE FORM:
MCDUIM TYPE: PAOPY
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US-08-404-531B-4/c
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best Local Similarity 58.4%;
Matches 52; Conservarion
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GENERAL INFORMATION:
                                                                                                                       Matches
                                                                                                                                      Query Match
Best Local (
                                                                                                                                                                                                                                                                                                       TELEFAX: 215-568-3439
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                            MOLECULE TYPE:
HYPOTHETICAL: NO
ANTI-SENSE: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
ADDRESSEE: Woodcock Washburn Kurtz Mackiewicz &
ADDRESSEE: No. 5863724ris
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                      TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                   NAME: Beardell, Lori Y.
REGISTRATION NUMBER: 34,293
REFERENCE/DOCKET NUMBER: BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: One LIVEL CITY: Philadelphia
                                                                                                                                                                                                                                            LENGTH: 5110 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                     TELEPHONE:
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 4440
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                                                                                                                       1 Similarity
52; Conser
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                                                                                          GGCAAAATGGCGATGTGGATGCCAGCAGGAATCCTTGCCATTTTGACCGCATCAACGTTT
   CGGAAAAAGGCGAGAGAGAAGGAGGATTT 4412
                             CGCAGCAATGCGATAGATCTGAAGACTCT
                                                            GGCAGCTTGGCGATGTCAATGCCATCGATGATGATACGCCCTTCAAACATATCCACCATT 4441
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Thomas, Gilbert Cote, and Robert G
                                                                                                                         Conservative
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                                                                                                                                                                                                                                 nucleic acid
                                                                                                                                      9.2%;
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0; Mismatches
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Pred. No. 2.
                                                                                                                         Pred. No. 3;
); Mismatches
                                                                                                                                      Score 29.8;
Pred. No. 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Version
                                206
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US-08-404-531B-5/C
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                                                                                                  RESULT 15
US-08-476-900A-4/c
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Sequence 4, Application US/08476900A
Patent No. 6031150
GENERAL INFORMATION:
APPLICANT: JOSEPH Bryan, Lydia A:
TITLE OF INVENTION: Sequence Enc.
Patent No. 6031150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Patent No. 5863724

NUMBER OF SEQUENCES: 4

CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                 Best
                                                                                                                                                                                                                                                                                                                                            Query Match
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, V
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/404,531B
FILING DATE: 15-MAR-1995
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEPHONE: 215-568-311
TELEFAX: 215-568-3439
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
NAME: Beardell, Lori Y.
REGISTRATION NUMBER: 34,;
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Joseph Bryan, Lydia Aguilar Bryan, Daniel Nelson, APPLICANT: Thomas, Gilbert Cote, and Robert Gagel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELECOMMUNICATION INFORMATION:
TELEPHONE: 215-568-3100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE: DI
                                                                                                                                                                                                                                                                                                                                                                                                                                                   NTI-SENSE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 5110 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ZIP: 19103
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE: Woodcock Washburn Kurtz Mackiewicz
ADDRESSEE: No. 5863724ris
STREET: One Liberty Place 46th. Floor
                                                                                                                                                                                                                                                                                                                              Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (genomic)
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                                                                                                                                                                                                                                                                                                                              58.4%;
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TITLE OF INVENTION: TITLE OF INVENTION: NUMBER OF SEQUENCES:

Infancy

and Method of Detecting Persistent Hyperinsulinemic Hypoglycen

yan, Lydia Aguilar Bryan, Daniel Nelson Sequence Encoding Mammalian Sulfonylure

Sulfonylurea Receptor

CORRESPONDENCE

ADDRESS:

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RESULT 11
US-08-476-900A-27/c
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; LOCATION:
US-08-404-531B-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Patent No. 6031150
GENERAL INFORMATION:
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Best Local Similarity
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                                                                                                 CLASSIFICATION: 800
ATTORNEY/AGENT INFORMATION:
NAME: Beardell, Lori Y.
REGISTRATION NUMBER: 34,293
REFERENCE/DOCKET NUMBER: BYLE
TELECOMMUNICATION INFORMATION:
TELEPHONE: 215-568-3100
                                                                 TELEFAX: 215-568-3439
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                               ZIP: 1910
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
CURRENT APPLICATION UMBER: US/08/476,900A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
LENGTH: 4635 base pairs
TYPE: nucleic acid
STRANDENNESS: single
                              SEQUENCE CHARACTERISTICS:
LENGTH: 4635 base pair
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Joseph Bryan, Lydia Aguilar Bryan, Do
TITLE OF INVENTION: Sequence Encoding Mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ANTI-SENSE: NO
FRAGMENT TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                     STREET: Out -
CITY: Philadelphia
                                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TLE OF INVENTION:
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TRANDEDNESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27, Application US/08476900A
o. 6031150
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            nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                   One Liberty Place 46th. Floor
                               4635 base pairs
                                                                                                                                                                                                                                                                                                                                                                      USA
                                                                                 215-568-3439
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58.4%;
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an Sulfonylurea Receptor
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US-08-488-546A-27/c
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Patent No. 6054313
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
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GENERAL INFORMATION:
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                                                                                                                                                         TELEFAX: 215-568-3439
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                            CLASSIFICATION: 800
ATTORNEY/AGENT INFORMATION:
NAME: Beardell, Lori Y.
REGISTRATION UNMBER: 34,293
REFERENCE/DOCKET NUMBER: BYLE
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Joseph Bryan, Lydia Aguilar Bryan, Daniel Nelson, Pamela APPLICANT: Thomas, Gilbert Cote, and Robert Gagel TITLE OF INVENTION: Sequence Encoding Mammalian Sulfonylurea Receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE:
HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                             COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/488,546A
FILING DATE: 07-UNE-1995
CLASSIFICATION: 800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ANTI-SENSE:
                                                                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 4635 base pair
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                 HYPOTHETICAL:
                                                  MOLECULE TYPE:
RAGMENT TYPE: N-terminal
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LOCATION:
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nes 52; Conserv
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CITY: Philadelphia
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ADDRESSEE: No. 6054313ris
STREET: One Liberty Place 46th. Floor
                                                                       STRANDEDNESS:
TOPOLOGY: lir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZIP: 19103
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                                                                                                       nucleic acid
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                                                                                                                                                                                                                                     BYLR-0026
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Pred. No. 2
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NAME/KEY:

CDS 37..4533

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LENGTH: 5829
TYPE: DNA
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APPLICANT: KESHI ET AL
TITLE OF INVENTION: PROBE FOR DIAGNOSING INFECTIOUS DISEASES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 56; Conserv
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Patent No. 5670367
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CURRENT APPLICATION NUMBER: US/08/809,254A
CURRENT FILING DATE: 1997-05-16
PRIOR APPLICATION NUMBER: PCT/JP95/02036
PRIOR FILING DATE: 1995-10-02
PRIOR FILING DATE: 1995-10-02
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APPLICANT: DORNER
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY: USA
ZIP: 22313-0299
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
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COMPUTER
                                                                                  ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: Patentin Release #1.0, Version CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/232,463
                                                                                                                                                                                                                                                      CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: SCHEIFLINGER, APPLICANT: FALKNER, F. G
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      UMBER OF SEQUENCES:
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                                                                                                                                        FILING DATE:
APPLICATION NUMBER:
FILING DATE: 26-AUC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PLICANT: FALKNER, F. G.
TLE OF INVENTION: RECOMBINANT FOWLPOX VIRUS
                                                                                                                                                                                                                                                                                                                                                                   FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CITY: Alexandria
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          182
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ilarity 57.1%;
Conservative
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30472/114 IMMU
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US-08-404-531B-27/c
US-08-404-531B-27/c
; Sequence 27, Application US/08404531B
; Patent No. 5863724
; GENERAL INFORMATION:
; APPLICANT: Joseph Bryan, Lydia Ag
; APPLICANT: Thomas, Gilbert Cote,
; APPLICANT: Thomas, Gilbert Cote,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
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                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                          ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                    FITLE OF INVENTION:
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Local Similarity 1.0%; I
les 3; Conservative 17;
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CITY: Philadelphia
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                                              APPLICATION NUMBER: FILING DATE: 15-MAI CLASSIFICATION: 43:
NAME: Beardell, Lor
REGISTRATION NUMBER:
                                                                                                                                                                                                    COUNTRY: U
                                                                                                                                                                                                                                                                 ADDRESSEE: Woodcock Washburn Kurtz Mackiewicz
ADDRESSEE: No. 5863724ris
STREET: One Liberty Place 46th. Floor
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nucleic acid
EDNESS: single
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Thomas, Gilbert Cote, and Robert Gagel
VENTION: Sequence Encoding Mammalian Sulfonylurea
                                                                                                                                                                                                                   USA
                                                                15-MAR-1995
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                                                                                  US/08/404,531B
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Pred. No. 1.9
                                                                                                                  Version
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US-09-328-352-1339
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US-09-252-991A-13832/c
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Best Local S
Matches 63
                               Sequence 1339, Application US/09328352

Patent No. 6562958

Patent No. 6562958

Patent No. 6562958

Patent No. 6562958

Patent No. 6562958

Patent No. 6562958

Patent Normation: Bareton et al.

APPLICANT: GATY L. Breton et al.

APPLICANT: GATY L. Breton et al.

ANINO ACID SEQUENCES RELATING TITLE OF INVENTION: BADWANNII FOR DIAGNOSTICS AND THERAPEUTICS

PILE REPERENCE: GTC99-03PA

CURRENT APPLICATION NUMBER: US/09/328,352

CURRENT FILING DATE: 1999-06-04

NUMBER OF SEQ ID NOS: 8252

SEQ ID NO 1339

LENGTH: 1404
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LENGTH: 594
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SEQ ID NO 13832
LENGTH: 678
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
PRIOR TILING DATE: 1998-02-18
PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
PRIOR FILING DATE: 1998-02-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Marc J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 107196.136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA
ORGANISM: Pseudomonas aeruginosa
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)9-252-991A-13832
ORGANISM: Acinetobacter baumannii
                      TYPE: DNA
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                                                                                                                                                                                                                                                                                                                                                                                      412
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Pred. No. 0.023
0; Mismatches
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Pred. No. 0.025;
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                                                                                                                                                                                                                                                               US-08-961-527-56
                                                                                                                                                                                                                                                                                                                                      NAME: Brookes, A. Anders
REGISTRATION NUMBER: 36,373
REFERENCE/DOCKET NUMBER: PB34
TELECOMMUNICATION INFORMATION:
TELEPHONE: (301) 309-8504
TELEPAX: (301) 309-8512
INFORMATION FOR SEQ ID NO: 56:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
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                                                                                                                                                                                             Matches
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TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: ASCII Text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION:
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COMPUTER: HP Vectr
OPERATING SYSTEM:
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CITY: Rockville
STATE: Maryland
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                                                                                                                                                                                                                                                                           TYPE: nucleic acid
STRANDEDNESS: double
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE:
CLASSIFICATION: 424
                                                                                                                                                                                             9.7%;
Local Similarity 52.7%;
1es 68; Conservative
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                                                                                                                                                                                                                                                                                                                        LENGTH:
1082
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61; Conserv
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                                                                                                                                                          TTTGTGGGCAAAATGGCGATGTGGATGCCAGCAGGAATCCTTGCCATTTTGACCGCATCA 171
ATGATTGTG 1090
                                 ATTACAGTG 240
                                                                GCAATTCAACGGTATTCTCCAAATGAGAAAATTCAAACAGTTAGTCCTTCTGCCTTAAAT 1081
                                                                                             ACGITTCGCAGCAATGCGATAGATCTGAAGACTCTAACCTTTGGTCTCATTGCCGTTGCG 231
                                                                                                                                TTTGGTĠĠAĀĀĀĀTĠAĊAĀTCTATTTGACĀĠAĀAAGCAAATTGAAAAAAAATAAATGCTTTA 1021
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9410 Key West Avenue
                                                                                                                                                                                                                                                                                                                            2387 base pairs
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486/33
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TITLE OF INVENTION: BRANCHED CHAIN AMINO ACIDS, PROCESS FOR THE TITLE OF INVENTION: BRANCHED CHAIN AMINO ACIDS, PROCESS FOR THE TITLE OF INVENTION: ISOLATION THEREOF AND USE THEREOF FILE REFERENCE: 21123/265496/MAS; CURRENT APPLICATION NUMBER: US/09/471,803A; CURRENT FILING DATE: 1999-10-23; PRIOR APPLICATION NUMBER: DE 199 51 708.8; PRIOR FILING DATE: 1999-10-27; NUMBER OF SEQ ID NOS: 12; SOFTWARE: Pacentin Ver. 2.1; SEQ ID NO 1

LENGTH: 1271

PRANTIPE: COrynebacterium glutamicum

PRANTIPE: Corynebacterium glutamicum
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US-09-471-803A-1
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Best Local Simi
Matches 324;
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Patent No. 6613545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PEATURE:
NAME/KEY: gene
LOCATION: (101).. (853)
OTHER INFORMATION: brnF
NAME/KEY: gene
LOCATION: (853).. (1176)
OTHER INFORMATION: brnE
OTHER INFORMATION: ATCC14752
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APPLICANT: KENNERKNECHT, NICOLE
APPLICANT: SAHM, HERMANN
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                                                                                                                                                                                                                                                                                      GCGCTCCGGGCGGTTCCGTTAATCCTTAAGCCCCTACGTGAATCACAATTTGTGGGC
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                                                                    GTGGCGCATCTTCTTGGCGGTCGACGCACCTTGTTGAGCGTTGGCGCTGGCACCATCGTT
                                                                                                                                            AGCAATGCGATAGATCTGAAGACTCTAACCTTTGGTCTCATTGCCGTTGCGATTACAGTG
                                                                                                                                                                                                                                                                  GCGCTCCGGGCGGTTCCGTTCTTAATCCTTAAGCCCCCTACGTGAATCACAATTTGTGGGC
                                          GTGGCGCATCTTCTTGGCGGTCGACGCACCTTGTTGAGCGTTTGGCGCTGGCACCATCGTT
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TTTGTTGGACTGGTGAATCTTTTC 324
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RESULT 3 US-09-471-803A-6

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TYPE: DNA
ORGANISM: Corynebacterium glutamicum
FEATURE:
NAME/KEY: gene
LOCATION: (101)...(853)
OTHER INFORMATION: brnF
NAME/KEY: gene
LOCATION: (853)...(1176)
COCATION: (853)...(1176)
OTHER INFORMATION: brnE
OTHER INFORMATION: ATCC13032
US-09-471-803A-6
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APPLICANT: SAHM, HERWANN
APPLICANT: SAHM, HERWANN
APPLICANT: SAHM, HERWANN
APPLICANT: PFEFERLE, WALTER
APPLICANT: PFEFERLE, WALTER
TITLE OF INVENTION: NUCLEOTIDE SEQUENCE CODING FOR THE EXPORT OF
TITLE OF INVENTION: ERANCHED CHAIN AMINO ACIDS, PROCESS FOR THE
TITLE OF INVENTION: ISOLATION THEREOF AND USE THEREOF
TITLE OF INVENTION NUMBER: USO/0/471,803A
CURRENT FILING DATE: 1999-12-23
PRIOR APPLICATION NUMBER: US/09/471,803A
CURRENT FILING DATE: 1999-12-23
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR PRIOR DATE: 1999-10-27
NUMBER OF SEQ ID NOS: 12
SOFTWARE: PATENTIN Ver. 2.1
US-09-252-991A-13729/c
US-09-252-991A-13729/c
Sequence 13729, Application US/09252991A
; Patent No. 6551795
; GENERAL INFORMATION:
APPLICANT: MATC J. RUBENFIELD Et al.
APPLICANT: MATC J. RUBENFIELD AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS;
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
; TILE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
; FILE REFERENCE: 107196.136
; CURRENT APPLICATION NUMBER: US/09/252,991A
; CURRENT FILING DATE: 1999-02-18
; PRIOR APPLICATION NUMBER: US 60/074,788
; PRIOR APPLICATION NUMBER: US 60/074,788
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Best Local Similarity 100.0%;
Matches 324; Conservative (
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Pred. No. 5e-107;
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Minimum |
Maximum |
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Perfect score:
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Maximum Match 100%
Listing first 45 summaries
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ALIGNMENTS

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APPLICANT: CANMERANECHT, NICOLE
APPLICANT: ESAHM, HERMANN
APPLICANT: EGGELING, LOTHAR
APPLICANT: EGGELING, LOTHAR
APPLICANT: EGGELING, LOTHAR
APPLICANT: EFFFFERE, WALTER
TITLE OF INVENTION: NUCLEOTIDE SEQUENCE CODING FOR THE EXPORT OF
TITLE OF INVENTION: BRANCHED CHAIN AMINO ACIDS, PROCESS FOR THE
TITLE OF INVENTION: ISOLATION THEREOF AND USE THEREOF
FILE REFERENCE: 21123/265496/MAS
CURRENT APPLICATION NUMBER: US/09/471,803A
CURRENT FILING DATE: 1999-12-23
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR FILING DATE: 1999-10-27
NUMBER OF SEQ ID NOS: 12
SOFTWARE: PATENTIN Ver. 2.1
SEQ ID NO 4
LENGTH: 324
TYPE: DNA
ORGANISM: Corynebacterium glutamicum
FEATURE:
NAME/KEY: CDS
LOCATION: (1). (1224)
COTHER INFORMATION: 571E
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US-09-471-803A-4
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US-09-471-803A-4
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Best Local Similarity
Matches 324; Conserv
181
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                                                                                                                           AAAATGGCGATGTGGATGCCAGCAGCAGCAATCCTTGCCATTTTGACCGCATCAACGTTT
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Search completed: April 19, 2004, 11:42:06 Job time : 151.886 secs
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present invention relates to oligonucleotide clones originating in barley (Hordeum vulgare) which contain single nucleotide polymorphisms (SNP). The oligonucleotides may be used for analysis of SNPs among barley varieties, identification of particular varieties and genotype-phenotype analysis, isolation of specific genes and varieties and genotype-phenotype transformation of barley varieties with them and production of new barley varieties. The present sequence represents an oligonucleotide clone DNA sequence featured in the specification. The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp. wipo.int/pub/published-pct-sequences. (Updated on 27-OCT-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 470 BP; 122 A; 131 C; 102 G; 106 T; 0 U; 9 Other;
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20-DEC-2001;
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27-SEP-2002;
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                                 Single nucleotide polymorphism sites in barley varieties and DNA sequences containing them for analysis and identification of barley varieties and production of barley transformants with desired
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                                                  Single nucleotide polymorphism sites in barley varieties and sequences containing them for analysis and identification of varieties and production of barley transformants with desired
                                                                                                                                                                                                                                                                                                                                                                            gene;
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                                      characteristics.
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                                                                                                                                                                                                                                                                                                                                                Hordeum vulgare;
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nilarity 53.6%;
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Pred. No. 1.7;
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Best Local S
Matches 75
The present invention describes a compound (I) that is 8-50 nucleobases in length: (a) targets a nucleic acid molecule encoding major histocompatibility complex (MHC) class II transactivator, and specifically hybridises with the nucleic acid encoding the MHC class II transactivator, and inhibits the expression of MHC class II transactivator; or (b) specifically hybridises with at least an 8-nucleobase portion of an active site on a nucleic acid molecule encoding MHC class II transactivator. (I) has immunosuppressive, antimicrobial, antidiabetic, antirheumatic, antiarthritic, cytostatic, nootropic,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; major histocompatibility complex class II transactivator; MHC class II transactivator; antisense modulation; immunosuppressive; antimicrobial; antidiabetic; antixheunatic; antiarthritic; cytostatic; nootropic; neuroprotective; immunostimulant; autoimmune disorder; MHC class II transactivator inhibitor; infection; transplant rejection; diabetes; rheumatoid arthritis; cancer; Alzheimer's disease; multiple sclerosis; severe combined immunodeficiency disease; gene; ss.
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nes 75; Conserv
                                                                                                                                                                                                                                                                                                                                                                     antisense oligonucleotides for modulating MHC class II transactivator
e expression, particularly useful for treating autoimmune disorders
h as transplant rejection, Alzheimer's disease, or multiple sclerosis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5322
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /*tag=
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RESULT 13
ACL20925/c
ID ACL209
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Best Local S
Matches 75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             neuroprotective and immunostimulant activities, and can be used as an M Class II transactivator inhibitor. The MHC class II transactivator antisense oligonucleotides can be used for treating an animal having a disease or condition associated with MHC class II transactivator, e.g. autoimmune disorder or infection. The antisense oligonucleotides can be used for inhibiting the expression of MHC class II transactivator in cells or tissues. In particular, these diseases include transplant rejection, diabetes, rheumatoid arthritis, cancer, Alzheimer's disease, multiple sclerosis, or severe combined immunodeficiency disease. The antisense compounds are useful for diagnostics, prophylaxis, or as research reagents or kits. The present sequence encodes a human MHC clastic transactivator, which is used in an example from the present inventii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 6672
                                              Single nucleotide polymorphism sites in barley varieties and DNA sequences containing them for analysis and identification of bar varieties and production of barley transformants with desired
                                                                                                                              Sato
                                                                                                                                                                                20-DEC-2001; 2001JP-00387059.
20-DEC-2001; 2001JP-00387131.
20-DEC-2001; 2001JP-00403299.
20-DEC-2001; 2001JP-00403300.
27-SEP-2002; 2002JP-00327515.
                                                                                                                                                                                                                                                                                                                                            Hordeum vulgare;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACL20925;
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                                                                                                                                                                                                                                                                                                                                                                       gene;
                                                                                                                                                                                                                                                                                                                                                                                 Barley; single nucleotide
                                                                                                                                                                                                                                                                                                                                                                                                            DNA clone originating in barley containing
                                                                                                                                                                                                                                                                                                                                                                                                                                       27-0CT-2003
17-0CT-2003
                                                                                                                                                                                                                                                                                         17-JUL-2003
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                      (revised)
(first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA;
                                                                                                                                                         OKAYAMA.
                                                                                                                              Kohara
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                                                                                                                                                                                                                                                                                                                                                                                                              SNP
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                                                                                                                                                                                                                                                                                                                                                                                   genotype-phenotype
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                            encoding sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 be used as an MHC
                                                              of barley
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MHC class
invention
                                                                                                                                                                                                                                                                                                                                                                                    analysis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
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Disclosure; SEQ ID

X,

284pp; Japanese

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ABL68121/c
IT ABL681
XX
AC ABL681
XX
DT 15-MAY
XX
OVATY
XX
CYCOSI
KW GYCOSI
KW GYCOSI
KW GYCOSI
XX
DE HOMO
XX
HOMO
XX
DE HOMO
XX
PD 13-DE
XX
PF 30-MI
PR 05-JI
PR 18-SI
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Best Local S
Matches 71
         05-JUN-2000;
05-JUN-2000;
18-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 66788
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                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo gapiens.
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                                                                                                                                                                                                                                                                     13-DEC-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cancer related gene sequence
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y from WIPO a
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gene therapy;
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         2000US-0209473P.
2000US-0209531P.
2000US-0233133P.
                                                                                                                                                                                  2001WO-US010838
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    colon; breast; ovary; oesophagus; kidney; thyroid;
prostate; pancreas; carcinoma; antitumour; cancerous;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BP; 13534 A; 21369 C; 19347 G; 12530 T; 0 U; 8 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      therapy; antineoplastic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA; 6672 BP
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27-SEP-2000;
28-SEP-2000;
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Endress ຸດ Horrigan ß

Screening for anti-neoplastic agent involves exposing cells to a agent to be tested for anti-neoplastic activity, and determining in expression of a gene of a signature gene set. chemical a change

Claim 1; SEQ ID NO 6458; 44pp; English.

The present invention describes a method (M1) for screening for an antiCC neeplastic agent. The method involves exposing cells to a chemical agent
CC to be tested for anti-neoplastic activity, determining a change in
CC expression of at least one gene (I) of a signature gene set, where (I)
CC comprises a sequence (S) selected from 8447 sequences (given in ABL61664
CC to ABL70110), or is at least 95% identical to (S), where a change in
CC expression is indicative of anti-neoplastic activity. (I) has cytostatic
CC civity and can be used in gene therapy. MI can be used for screening an
CC activity and can be used in gene therapy a producing a product which is
CC the data collected with respect to the anti-neoplastic agent as a result
CC of M1, and the data is sufficient to convey the chemical structure and/or
CC properties of the agent. MI can be used in the treatment of cancer such
CC as colon, breast, stomach, lung, thyroid, oesophageal, ovarian, kidney,
CC prostate or pancreatic cancer, antiltrating lobular cancer, squamous
CC cell carcinoma, neuroendocrine carcinoma, papillary carcinoma and Wilm's

Sequence 6672 B₽; 1392 Þ 1954 ü 1868 G; 1458 Η; 0 ς, 0 Other

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RESULT 9
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ID AAS59515
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Best Local S
Matches 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              capable of detecting 1000 or more genes from Drosophila. The invention useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA sequences (ABL01840-ABL16175) and the encoded proteins (ABB57737-ABB72072). The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                 21-APR-2000;
02-JUN-2000;
07-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                           SAPHO syndrome; synovitis; acne; pustulosis; hypertosis; osteomyelitis uveitis; endophthalmitis; bone; joint; central nervous system; ELIGA; inflammatory lesion; acne vulgaris; enzyme linked immunosorbent assay; dermatological; osteopathic; neuroprotectant; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
Sequences AAS59906-AAS59804 represent DNA molecules encoding Propionibacterium acnes immunogenic polypeptides. The proteins and their associated DNA sequences are used in the treatment, prevention and diagnosis of medical conditions caused by P. acnes. The disorders include
                                                                                                 Propionibacterium acnes polypeptides and nucleic vaccinating against and diagnosing infections, estreating acne vulgaris.
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                                                                        Claim 1; SEQ ID NO 10; 1069pp; English
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2000US-0208841P.
2000US-0216747P.
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e J, Zhang Y,
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, Jen S,
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, Carter D;
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ystem; ELISA;
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RESULT 10
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CC SAPHO syndrome (synovitis, acne, pustulosis, hyperrosis and costeonyelitis), uveitis and endophthalmitis. P. acnes is also involved in fections of bone, joints and the central nervous system, however it is particularly involved in the inflammatory lesions associated with acne vulgaris. A method for detecting the presence or absence of P. acnes in a compatient comprises contracting a sample with a binding agent that binds to the proteins of the invention and determining the amount of bound protein the sample. The polypeptides may be used as antigens in the production of antibodies specific for P. acnes proteins. These antibodies can be used to downregulate expression and activity of P. acnes polypeptides and therefore treat P. acnes infections. The antibodies may also be used as diagnostic agents for determining P. acnes presence, for example, by can provide shown in ANU41313-42019 and ANU67473. Note: The sequence collate for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at content of the printed specification, but sequence in the patent did not format directly from WIPO at
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Zhang Y, Wang S, Jen S,
Barth B, Vallieve-Douglass
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, Lodes MJ,
188 J;
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New Propionibacterium acnes polypeptides and polynucleotides encoding polypeptide, useful for diagnosing, preventing or treating acne vulgar or for stimulating an immune response specific for a P. acnes protein.

vulgaris,

Claim 1; SEQ ID NO 10; 1481pp; English

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ID ADA719
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NO 32863; 21pp + Sequence Listing;

isolated

nucleic acid

detection

English

밁 Ś

1153 301

TTTGTTGGACTGGTGAATCTTTTC

324 1176

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RESULT :
This invention describes a novel isolated polynucleotide (I) containing CC at least one sequence that (i) is 70% identical with a sequence that CC encodes at least one of 251 amino acid (aa). (3) or 108 aa (5) CC polypeptides; (ii) encodes a polypeptide at least 70% identical with (3) CC or (5); (iii) is the complement of (i) or (ii), or (iv) contains at least CC 15 consecutive bases from (i)-(iii). The invention also describes (a) protein derived from sequences of 733 bp (2) or 324 bp (4); (b) CC coryneform microorganisms, especially Corynebacterium, transformed with CC coryneform incroorganisms, especially Corynebacterium, transformed with CC coryneform in L-aa by fermentation of coryneform bacteria in which the CC brnE and/or brnF genes (or equivalent sequences) are amplified, CC especially overexpressed; and (d) method for isolating the brnE and/or CC used for fermentative production of branched-chain amino acids, CC specifically leucine, isoleucine and valine, which are useful in medicine and animal nutrition. (I) can also be used as source of primers and CC probes for isolation of related sequences. Transformation with (I) corynebacterium glutamicum ATCC 13032 brnF and brnE proteins described in the method of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           L-amino acid production; brnF; coryneform bacterium; leucine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ?
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAH21112 standard; DNA; 1271
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EP1096010-A1
                                                                                                                                                                                                                                                                                                                                      Claim 4 (i); Page 17-18; 23pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 27-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11-OCT-2000;
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FORSCHUNGSZENTRUM JUELICH GMBH
                                                                                                                                                                                                                                                                                                                                                                  genes from coryneform bacteria, useful for increasing ve production of branched-chain amino acids.
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853. .1179
/*tag= b
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Seguence

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BP;

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318

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360

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Other;

The present invention provides a number of nucleotide and protein sequences from the Coryneform bacterium Corynebacterium glutamicum. These are useful for identifying the mutation point of a gene derived from a mutant of coryneform bacterium, measuring expression amount and analysing the expression profile or expression pattern of a gene derived from coryneform bacterium, and identifying a homologue of a gene derived from

7;

SEQ

IJ

NO 1; 246pp +

Sequence

Listing;

English.

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Best Local
                                                                                                                                                                                                                                                                                                                                     Nakagawa
Tateishi
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                                                                                                                                                                                              Novel polynucleotides derived from Coryneform bacteria, fi
mutation point of a gene, measuring expression of a gene,
expression profile or pattern of a gene and identifying h
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07-APR-2000;
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24; Conservative
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Senoh A, Ikeda M,
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Mismatches
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Ozaki A;
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                                                                                                                                                             16-DEC-1999;
07-AFR-2000;
03-AUG-2000;
                         Nakagawa
Tateishi
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Pred. No. 8.8e-1
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Best Local Sim
Matches 324;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Novel polynucleotides derived from Coryneform bacteria, for identifying mutation point of a gene, measuring expression of a gene, analyzing expression profile or pattern of a gene and identifying homologous gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2001-376931/40.
P-PSDB; AAG90036.
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301
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                                                                                                                                                                                                                                                                                                                                                                                                                                   ATGACAACTGATTTCTCCTGTATTCTCCTTGTTGTCGCAGTATGTGCCAGTCATTACTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQ ID NO 290; 246pp + Sequence Listing;
                                                                                                                GTGGCGCATCTTCTTGGCGGTCGACGCACCTTGTTGAGCGTTGGCGCCTGGCACCATCGTT 300
                                                                                                                                                                                                                                                                             AAAATGGCGATGTGGATGCCAGCAGGAATCCTTGCCATTTTGACCGCATCAACGTTTCGC
TTTGTTGGACTGGTGAATCTTTTC
                                    TTTGTTGGACTGGTGAATCTTTTC
                                                                                                                                                                                        AGCAATGCGATAGATCTGAAGACTCTAACCTTTGGTCTCATTGCCGTTGCGGATTACAGTG
                                                                                                                                                                                                                                              AAAATGGCGATGTGGATGCCAGCAGGAATCCTTGCCATTTTGACCGCATCAACGTTTCGC
                                                                                                                                                                                                                                                                                                                             GCGCTCCGGGCGGTTCCTTAATCCTTAAGCCCCCTACGTGAATCACAATTTGTGGGC
                                                                                                                                                                                                                                                                                                                                                                  GCGCTCCGGGCGGTTCCGTTCTTAATCCTTAAGCCCCTACGTGAATCACAATTTGTGGGC 120
                                                                                                                                                                                                                                                                                                                                                                                                           ATGACAACTGATTTCTCCTGTATTCTCCTTGTTGTCGCAGTATGTGCAGTCATTACTTTT
                                                                                GTGGCGCATCTTCTTGGCGGTCGACGCACCTTGTTGAGCGTTGGCGCCTGGCACCATCGTT
                                                                                                                                                              AGCAATGCGATAGATCTGAAGACTCTAACCTTTGGTCTCATTGCCGTTGCGATTACAGTG
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ilarity 100.0%;
Conservative (
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Pred. No. 8.8e-101;
Mismatches 0;
324
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180

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RESULT 3
ACA01970
ID ACA0
XX ACA0
AC ACA0
XX ACA0
DT 04-J
DT 04-J
DT 05-S
XX COTY
XX COTY
XX COTY
XX DE10
XX DE11
XX D19-I
ST 13-J
                                                                                                     C. glutamicum
                                                                                                                         04-JUN-2003
                                                                                                                                           ACA01970;
                                                                                                                                                              ACA01970 standard;
         13-JUN-2001; 2001DE-01028510.
                           19-DEC-2002.
                                                                Corynebacterium
                                                                                   Coryneform;
                                                                                    nucleic acid array;
                                                                                                                       (first entry
                                                                                                      derived ORF
                                                                glutamicum
                                                                                                                                                              DNA;
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                                                                                                    SEQ ID 1961.
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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seg length: 2000000000
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                                                                                                                                                                                                                                                                                                                                               3373863 seqs, 2124099041 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                1 atgacaactgatttctcctg.....ttggactggtgaatcttttc 324
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geneseqn2003as:*
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geneseqn2001as:*
geneseqn2001bs:*
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geneseqn2004s:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed and is derived by analysis of the total score distribution.

SUMMARI	
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	Score
99999999999999999999999999999999999999	% Query Match
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AAH21111 AAH65255 ACA01970 AAH21109 AAH21112 AAH24112 AAH24966 ADA71938 ABL27130 AAS59515 ACC20925 ACC20925 ACC20925 ACC20925 ACC20918 ACC209	ID
Aah21111 C. glutami Aah65255 C glutami Aaah610970 C. glutami Aah211109 C. glutami Aah21112 C. glutami Aah21112 C. glutami Ada71938 Rice gene Abl27130 Drosophil Aa659515 Propionib Ac664444 Propionib Ac664444 Propionib Ac6120915 DNA clone Ac120925 DNA clone Ac120918 DNA clone Ac12	Description

This invention describes a novel isolated polynucleotide (I) containing at least one sequence that (i) is 70% identical with a sequence that encodes at least one of 251 amino acid (aa) (3) or 108 aa (5) polypeptides; (ii) encodes a polypeptide at least 70% identical with (3) or (5); (iii) is the complement of (i) or (ii), or (iv) contains at least 15 consecutive bases from (i) (-(ii). The invention also describes (a) protein derived from sequences of 753 bp (2) or 324 bp (4); (b) coryneform microorganisms, especially Corynebacterium, transformed with one or more (I), where these are replicative DNA; (c) production of

Claim 5; Page 16; 23pp; German.

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							9.3							ຫ	9.5			9.6	. 7		
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ACL20924	ACL20907	ACL20947	ACL20906	ACL20912	ACL20920	ACL20954	ACL20950	ACL20929	ACL20861	ABX03452	ACL20939	ACA50939	ACL20863	AAH41227	AAT30053	ABS99007	AAX13212	AAH24065	ABS56454_07	AAV52189	ADA30052
Ac120924	Ac120907	Ac120947	Ac120906	Ac120912	Ac120920	Ac120954	Ac120950	Ac120929	Ac120861	Abx03452	Ac120939	Aca50939	Ac120863	Aah41227	Aat30053	Abs99007	Aax13212	Aah24065	Continua	Aav52189	Adasoosz
DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	Neg	DNA	Prokaryo	DNA	Pyrococci	s. pr	Enteroco	Enterococ	Yeast AOD	CŤ.	Streptoco	UNA
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ALIGNMENTS

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RESULT 1
AAH21111
ID AAH2
L-amino acid production; brnF; brnE; branched-chain amino acid; coryneform bacterium; leucine; isoleucine; valine; medicine; animal nutrition; ds.
                                                                                                         New export genes from coryneform bacteria, useful for increasing fermentative production of branched-chain amino acids.
                                                                                                                                     WPI; 2001-391595/42.
P-PSDB; AAB86248.
                                                                                                                                                                                                                                                                                                                                         C. glutamicum brnE DNA.
                                                                                                                                                                                                                                                                                                                                                            05-SEP-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                AAH21111 standard; DNA; 324 BP.
                                                                                                                                                                Kennerknecht N,
                                                                                                                                                                                                             27-OCT-1999;
                                                                                                                                                                                                                              11-OCT-2000; 2000EP-00122057.
                                                                                                                                                                                                                                                 02-MAY-2001.
                                                                                                                                                                                                                                                                  EP1096010-A1.
                                                                                                                                                                                                                                                                                    Corynebacterium glutamicum.
                                                                                                                                                                                                                                                                                                                                                                               AAH21111;
                                                                                                                                                                                (DEGS ) DEGUSSA AG.
(KERJ ) FORSCHUNGSZENTRUM JUELICH GMBH.
                                                                                                                                                                                                             99DE-01051708.
                                                                                                                                                               Eggeling L,
                                                                                                                                                                Sahm H,
                                                                                                                                                                Pfefferle W;
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KATNVENLSVKNATNLTITAGGGKLNTVTLENVTLGDSSSAAAA DFKGATTLNENNV
KWIDGSDSKLAHIKSSAFTLNLNFSGKEATFALVTNQVTKVANITANADSNTFLITKE
DGDHRDHAALANDSFTTFVIKGGKGLLVEDDAGDLDKVTSIDASGFNGNAKIVFGDSNG
DAIAGLKVSGGANDTLVLESNKLSAGSVIDGGAGRDTIVLKSSALADSATLAMIKNI
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SIDGKETDVKSJIINGDAGATGTVKKGGTSTDYITINDFSKDDKIVLDGT
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KTTTLDASSFGGALDADISTSASVTSIKGGNGNDKITIKDVANVALDGGAGNDELVI
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2182. .5010
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NAIKHGIIKKLNISADKISVIYNGYDENIFKPKNKQTINILKDRLELNNFFILFYGSI
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TLYSSATIFVYPSIYEGFGIPPLEAIACGAPILLSDIEVFREIYGNVÆFFSPLNAKE
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ASDAVVQAANATKIDINAAKDTVGLTLGGVAKLTDLTVNNKGAFALTGANATDLDSVK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LAEKLKNLINNSDKLSIMKKNGLILSKKYSWKKCIQEHEKLFIKLLD"
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                                                                                                                                                                                       CGCATCTTCTT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCCGGGCGGTTCCTTAATCCTTAAGCCCCTACGTGAATCACAATTTGTGGGCAAAA 124
                                                                                                                                                                                                                                          AGATTTTACCGGCGACAACATCGACTTTGCCTGTTCCGGCTGCGGTGAAAGCAGTTATCG
                                                                                                                                                                                                                                                                                                    ATGCGATAGATCTGAAGACTCTAACCTTTGGTCTCATTGCCGTTGCGATTACAGTGGTGG
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GTTAKKDVDFNIENVGALTIGAITSSTGNASVIISSATGNVTIGAVSATQGNILTINA
GNTLGNITGALKGDIVSVDLGGVIGTINSDANKVSITSINSVTYVGSEISKAVVEIT
AAAGGTDINAQVIGGAAADDALTIIGKGDTQTITASGDLSGGTLTLTLTEATKLSSID
AAAGGTDINAQVIGGAAADDALTIIGKGDTQTITASGDLSGGTLTLTLTEATKLSSID
16GVKGLSAATAIDLKNVSVENKLIVDIGGSDAÆTTTANSTSATUFAITLSGDLGGG
ANTVTVADPDAAAVAITTIDLSGLSATGGTLSGTITHNAAGVTAITIKGSAGNDTITIG
ANADLTVTGGAGNDVENVTAAKIVTANTEBHATITDESAGDSIKFAASVTAYKHSTV
DLSGKADLKSSIAAVLTTDSDEATTVYGFTYNNESYLYYNVATTTATAAANDVLVKLTG
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RSGKSTVFKLLINHLSKSVDSKEILYINLDDPFFSTKSKDARVINDIVSLSQRLTNKR
KYLLFLDEIGANNWEKYVKSAYDSELFDKIFISKSKSALLMYQATLLSGRYLSTQI
YPLSFKEILKINNINDYFELIKEKNHVLNLVQDIKGSNSALLMYSSNSEKRDIISSY
YDAILLKDCVANNQIRDIAGFRELGFYSLTNFGALYSTNSLSNAVKLNPKSVQBYIGY
LQECYLCDELKMFSYSLKEQMNNKKKLYLCDNGFLSLAFSFSDNKGRALENLVFCELK
KLGFELFFYKTNDSECDFIAKKNDKSIALQVCYELNEKNIKREIAGLMKLPFGVNEKY
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/gene="mapA6"
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/protein_id="AA064212.1"
/db_xref="GI:28974211"
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/protein_id="AA064213.1"
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note="Cf0006; similar to
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Pred. No. 2.4;
0; Mismatches 133;
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promoter: evidence mutant strains

variable regions

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ACCESSION
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Matches 324;
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                                                                                                                       Campylobacter fetus
Campylobacter fetus
Bacteria; Epsilonproteobacteria;
Bacterbacteraceae; Campylobacter.
1 (bases 1 to 65865)
Blaser,M.J. and Gotschlich,B.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nakagawa,S., Mizoguchi,H., Ando,S. Yokoi,H., Tateishi,N., Senoh,A., Novel polynucleotides
2 (bases 1 to 65865)
Blaser,M.J. and Gotschlich,E.C.
Surface array protein of Campylobacter fetus. Cloning and
                                                                                                                                                                                                                               AY211269 65865 bp
Campylobacter fetus strain 23D 8
AY211269 AF027405 J05577 L15800
AY211269.1 GI:28974206
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HAKKO KOGYO CO., LTD. (JP)
Location/Qualifiers
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5 AX114121
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/mol_type="genomic DNA"

/db_xref="taxon:1718"

/note="Seq 1 to long (3.309.400)

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Ikeda,M. and Ozaki,A.
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                                                                  Sg
                                                                                                                                                                                               Submitted (30-SEP-1997) Division of Infectious Dis University, A-3310 MCN, Nashville, TN 37232, USA 10 (bases 1 to 65865)
Th.Z.-C., Wassenaar, T.M., Thompson, S.A. and Blaser Direct Submission
Submitted (03-JAN-2003) Microbiology and Medicine, University School of Medicine, VAMC ROOM 6006W 423 New York, NY 10016, USA On or before Mar 15, 2003 this sequence version regi:4009445, gi:144211, gi:289533, gi:913763.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8 (bases i
Blaser, M.J.
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Dworkin, J., Tummuru, M.K. and Blaser, M.J.

A lipopolysaccharide-binding domain of the Campylobacter fetus S-layer protein resides within the conserved N terminus of a fact silent and divergent homologs

J. Bacteriol. 177 (7), 1734-1741 (1995)
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J. Biol. (
91035477
2229082
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Thompson, S.A., Shedd, O.L., Ray,
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Tummuru,M.K. and Blaser,M.J.
Rearrangement of sapA homologs with
in Campylobacter fetus
Proc. Natl. Acad. Sci. U.S.A. 90 (15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3 (bases 1 to 65865)
Tummuru,M.K. and Blaser,M.J.
Characterization of the Campylobacter fetus sapA
that the sapA promoter is deleted in spontaneous
J. Bacteriol. 174 (18), 5916-5922 (1992)
                                                                                                                                                                                                                                                                                                                                                                   Blaser, M.J.
Direct Submission
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Tu, Z.C., Wassenaar, T.
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   /note="Cf0001"
/codon_start=1
/transl_table=11
                                                                                                                                          /mol_type="genomic
/strain="23D"
                                                 gene="mtfA"
                                                                               'gene="mtfA"
                                                                                                                          serotype="A"
                                                                                                                                                         mol_type="genomic DNA"
                                                                                                          db_xref="taxon:196"
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dicine, Nashville, TN 37232, USA
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                                                                                                                                                                                                                                                               Medicine, 6006W 423
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Campylobacter
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transported by

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fetus

gap

Diseases,

Vanderbilt

Jorgensen,

. 'P

Vanderbilt

replaced

gi:255285

New York E. 23rd S

gene

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DIKLHGKHWYQNUEKSVPDELIEGGNARCTGTTIR PWDDAEIFETTEDPETISBRLQ
EMAFLNKGLTITLTDNRATDEELELBALAEQGETATELSLDEIDNETELVEETTDAPK
KEKKREKKKIFHYPNGLEDVYVHYLNRSKTNIHPSIVSFEAKGDDHSVEVANQWNSSYK
KEKKREKKKIFHYPNGLEDVYVHYLNRSKTNIHPSIVSFEAKGDDHSVEVANQWNSSYK
KEKKREKKKIFHYPNGLEDVYHNASKTNIHPSIVSFEAKGDDHSVEVANQWNSSYK
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EQLNEGLAAGRKINKDDGIQRYKGLIGENNASELMETTMDFTVRILRRVDITDAQRADE
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4766. .5302
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TIGRO1055:parE Gneg: DNA topoisomerase IV, B subunit
TIGRO1058:parE_Gpos: DNA topoisomerase IV, B subunit
TIGRO1059:gyrB: DNA gyrase, B subunit"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /gene="Cgl0006"
5354. .7489
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/pr00386:DNA gyrase B subunit, carboxyl terminus
PF01751:Toprim domain
PF02518:Histidine kinase-, DNA gyrase B-, phytochrome-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /codon_start=1
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                                                                                                                                                                                                                                                                                              /gene="Cgl0007"
7830. .8798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /gene="Cg10006"
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Best Local S
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               AX120085
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RPBAEKYNLRAIFGVGAGSPFRPTFSPKWGKRLGLGAVLLGGIGGHIVGFWPGKVLGK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /gene="Cgl0010"
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FPNVEFGTMKQIVDwtfvsvaailswitmggligvregtvfaaffigffvrqwrklyl
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/gene="Cgl0009"
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                   349980 bp
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nes 324; Conservative
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Unpublished
                                                                                               Nakagawa, S.
                                                                                                                                                                                              Corynebacterium glutamicum ATCC 13032
Corynebacterium glutamicum ATCC 13032
Bacteria, Actinobacteria, Actinobacteridae, Actinomycetales,
Corynebacterineae, Corynebacteriaceae, Corynebacterium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 AP005274.1
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                                               Complete genomic sequence of Corynebacterium glutamicum ATCC 13032
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1538. .1
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Pred. No. 6.2e-89;
; Mismatches 0;
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This sequence is conducted by collaboration of Kyowa Hakko Kogyo Co. Ltd. And Kitasato University.
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Direct Submission
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PF02767:DNA polymerase III beta subunit, central domain PF02768:DNA polymerase III beta subunit, C-terminal dom TIGR00663:dnan: DNA polymerase III, beta subunit"
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Query Match 100.0%; Score 324; DB 6; Length 1271; Best Local Similarity 100.0%; Pred. No. 5.8e-89; Matches 324; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	PC (C12N15/09,C12R1:15),(C12N1/21,C12R1:15),(C12P13/06,C12R1:15), PC (C12N15/00,C12R1:15) PC (C12N15/00,C12R1:15) CC brnF CC brnF CC brnE FH Key FH Key FOORTINES FI Gene Location/Qualifiers FEATURES 11271 /organism="unidentified" /mol_type="genomic DNA" /db_xref="taxon:32644" ORIGIN	AUTHORS Renerviewheitco, N., Sahm,H., Eggering,L. and Pfefferle,W. TITLE Nucleotide sequence encoding the discharge of branched amino acid, method of isolating the same and utilization thereof patent: JP 2001169789-A 4 26-JUN-2001, DEGUSSA HUELS AG,FORSCHUNGSZENTRUM JUELICH GMEH COMMENT OS COTYDEDACTETIUM Glutamicum ATCC13032 PN JP 2001169788-A/4 PD 26-JUN-2001 PF 24-OCT-2000 JP 2000324315 PR 27-OCT-1999 DE 19951708.8 PI NICOLE KENNERUKUNEHITO,HERMANN SAHM,LOTHAR EGGERING,WALTER PI PEFFFERLE PEFFFERLE PC C12N15/09,C07K14/34,C12N1/21,C12P13/06,C12P13/06/C12P13/06/	Oy 301 TITGTTGGACTGGTGAATCTTTTC 324	Qy 181 AGCAATGCGATAGATCTGAAGACTCTTAACCTTTGGTCTCATTGCCGTTGCGATTACAGTG 240	OY 61 GCGCTCCGGGCGGTTCCGTTATCCTTAAGCCCCTACGTGAATCACAATTTGTGGGC 120	Query Match Query Match Best Local Similarity 100.0%; Score 324; DB 6; Length 1271; Best Local Similarity 100.0%; Pred. No. 5.8e-89; Matches 324; Conservative 0; Mismatches 0; Indels 0; Gaps 0; Matches 324; Conservative 0; Mismatches 0; Indels 0; Gaps 0; Qy 1 ATGACAACTGATTTCTCCTGTATTCTCCTGTTGTTGTCGCAGTATGTGCAGTCATTACTTTT 60
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Sequence 6 from Patent EP1096010.
AX137714
AX137714.1 GI:14273893
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Degussa AG (DE) ; FORSCHUNGSZENTRUM JUELICH GMBH (DE)
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Pred. No. 5.8e-89;
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Locus	ANG
DEFINITION	sequence encoding
	isolating the same and
ACCESSION	91
VERSION	BD014991.1 GI:22555798
KEYWORDS	JP 2001169788-A/1.
SOURCE	unidentified
ORGANISM	unidentified
	unclassified.
REFERENCE	1 (bases 1 to 1271)
AUTHORS	Eggering, L. and Pfefferle, W.
TITLE	Nucleotide sequence encoding the discharge of branched amino acid,
	method of isolating the same and utilization thereof
JOURNAL	-JUN-2001;
	DEGUSSA HUELS AG, FORSCHUNGSZENTRUM JUELICH GMBH
COMMENT	OS Corynebacterium glutamicum ATCC14752
	PN JP 2001169788-A/1
	26-JUN-2001
	24-OCT-2000 JP 20
	-1999 DE 19951708.8
	PI NICOLE KENNERUKUNEHITO, HERMANN SAHM, LOTHAR EGGERING, WALTER PI
	PREFERLE
	PC (C12N15/00, C12R1:15)
	CC brnF
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	FH Key Location/Qualifiers
	tu
	FT gene (853)(1176).
FEATURES	Location/Qualifiers
source	11271
	/HO type="genomic live"
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Best Local &
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AR391953
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Sequence 6 from p
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AR391956.1 GI:40
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Kennerknecht, N., Sahm, H.,
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Kennerknecht, N., Sahm, H., Eggeling, L. and Pfefferle, W.
Nucleotide sequences coding for the export of branched c
acids, process for the isolation thereof and use thereof
Patent: US 6613545-A 6 02-SEP-2003;
Location/Qualifiers
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Degussa AG (DE); FORSCHUNGSZENTRUM JUELICH GMBH Location/Qualifiers
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terineae; Corynebacteriaceae; Corynebacterium.
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It (Dases 1 to 324)

Kennerukunehito,N., Sahm,H., Eggering,L. and Pfefferle,W.

Nucleotide sequence encoding the discharge of branched ami:
method of isolating the same and utilization thereof

Patent: UP 2001169788-A 3 26-UUN-2001;

DEGUUSA HUELS AG,FORSCHUNGSZENTRUM JUELICH GMBH

OS COTYNEBACCETIUM GIUTEMIN ATCC14752

PN JP 201169788-A/3

PD 26-UUN-2001

PF 24-OCT-2000 JP 2000324315

PF 27-OCT-1999 DE 19951708.8

PI NICOLE KENNERUKUNEHITO,HERMANN SAHM,LOTHAR EGGERING,W

PPERFERLE

PC C12N15/09,C12R1:15),(C12N1/21,C12P13/06,C12P13/06,C12P

CC C12N15/09,C12R1:15)

PC (C12N15/09,C12R1:15)

PC (C12N15/00,C12R1:15)

PC (C12N15/00,C12R1:15)

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Location/Qualifiers

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Location/Qualifiers
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Nakagawa,S., Mizoguchi,H., Ando,S., Hayash
Yokoi,H., Tateishi,N., Senoo,A., Ikeda,M.,
Novel polynuclectide
Patent: JP 2002191370-A 290 09-JUL-2002;

KYOMA HAKKO KOGYO CO LTD
OS Corynebacterium glutamicum
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BD162491.1 GI:27868
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                                                                                          GTGGCGCATCTTCTTGGCGGTCGACGCACCTT
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SATOSHI NAKAGAWA, HIROSHI MIZOGUCHI, SEIKO ANDO, MIKIO HAYASHI,
KEIKO OCHIAI,
HARUHIKO YOKOI, NAOKO TATEISHI, AKIHIRO SENOO, MASATO IKEDA, AKIO
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/mol_type="genomic DNA"
/db_xref="taxon:32644"
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Matches 324; Conserv
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Yokoi,H., Tateishi,N., Senoh,A., Iked
Novel polynucleotides
Patent: EP 1108790-A 290 20-JUN-2001;
KYOWA HAKKO KOGYO CO., LTD. (JP)
                                                                                                                                                                                                                                                                                                                                                                                                            Corynebacterium glutamicum
Corynebacterium glutamicum
Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
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Sequence 290 from Patent
AX120374
AX120374.1 GI:14037089
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/mol_type="genomic
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/mol_type="unassigned DNA"
/db_xref="taxon:1718"
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Degussa AG (DE) ; FORSCHUNGSZENTRUM JUELICH GMBH (DE)
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Sequence 4 from Patent EP1096010.
AX137712
AX137712.1 GI:14273891
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                    GTGGCGCATCTTCTTGGCGGTCGACGCACCTTGTTGAGCGTTGGCGCTGGCACCATCGTT
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    GIGGCGCATCTICT
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MMPAGILAILTASTFRSNAIDLKTLTFGLIAVAITVVAHLLGGRRTLLSVGAGTIVFV
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/protein_id="CAC39926.1"
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Mismatches
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Title: Perfect score:

US-10-608-504-6_COPY_853_1176 324

atgacaactgatttctcctg.....ttggactggtgaatcttttc

Minimum DB Maximum DB

seq geq

length: 0 length: 2000000000

Post-processing:

Minimum Match 0%

Listing Maximum Match

Match 100% first 45 summaries

Database

Genembl:*
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Searched:

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6940544

Scoring table: Sequence:

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Gapext 1.0

Run

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nucleic search, using

88 model GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd

April 19, 2004, 10:57:18;

Search time 1373.24 Seconds (without alignments)
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JOURNAL

score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

REFERENCE AUTHORS TITLE Result No. RESULT 1 AR391955 LOCUS DEFINITION ACCESSION VERSION KEYWORDS SOURCE ORGANISM $\alpha \ \alpha \ \alpha \ \alpha \ \alpha \ \alpha \ \alpha$ O O Ω 000 38.2 36.6 36 AR391955 Sequence 4 from patent US AR391955 AR391955:1 GI:40115726 1 (bases 1 to 324) Kennerknecht, N., Sahm, H., Eggeling, L. and Pfefferle, W. Nucleotide sequences coding for the export of branched chain acids, process for the isolation thereof and use thereof Patent: US 6613545-A 4 02-SEP-2003; Unknown. Unclassified. Unknown. 3 4534 1 141605 1 148332 0 2040 0 137678 0 173270 0 328187 9 113025 7 86524 7 270748 7 110000 7 170475 7 179141 340000 349980 65865 224691 1271 1271 1271 1271 1271 1271 DB BD014993 BD162491 AR391953 AR391956 AX137709 AX137714 BD014991 BD014994 AR391955 AX120374 AX137712 AF454053 AP005274 AX120085 AY211269 CFU25133 ACC13732 AC138550 AC108752 AC053483 AC125625 AL929533 AC144644 CNS01DV7 NOCCDH AE009221 AE008188 AE004602 AC079586 NTA289862 AP005183 SUMMARIES ALIGNMENTS 324 bp 5 6613545. DNA linear AX137712 Sequence BD014993 Nucleotid BD162491 Novel pol AR391953 Sequence AR391956 Sequence AX137710 Sequence AX137710 Sequence BD014991 Nucleotid BD014994 Nucleotid AF45403 Corynebac AP005274 Corynebac AN120085 Sequence AV211269 Campylobac U2513 Campylobac U2513 Campylobac U2513 Campylobac U2513 Campylobac U2513 Campylobac U2513 Campylobac U2513 Campylobac U2513 Cyria sapi AC109586 Homo sapi AC109586 Cyria sat AC02486 Homo sapi AC109586 Cyria sequence AC104481 Sequence AC104481 Sequence AC104481 Sequence AC104481 Sequence AC104683 Rattus no AC108890 Bos tauru AC13628 Rattus no AC108890 Bos tauru AC13628 Rattus no AC108890 Homo sapi AC004479 Homo sapi D90244 Nocardia sp AE009221 Agrobacte AC138550 Danio rer AC108752 Homo sapi AC053483 Homo sapi AC125625 Homo sapi AC125625 Homo sapi AE008188 Agrobacte AE004602 Pseudomon AC138550 Danio rer AC108752 Homo sapi AR391955 Sequence AX120374 Sequence Description PAT 18-DEC-2003 Medicago Human chr amino

ORIGIN

/plasmid="pBeloBAC11" /note="end : T7"

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Matches 73
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BE013856
BE013856.1 GI:8274843
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                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalla; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.

1 (Dases 1 to 539)

Fahrenkrug, S.C., Smith, T.P.L., Freking, B.A., Cho, J., White, J., Vallet, J., Wise, T., Rohrer, G.A., Pertea, G., Sultana, R., Quackenbush, J. and Keela, J.W.

Porcine gene discovery by normalized cDNA-library sequencing and
                                                                                                                                                                                                Tel: 402 762 4366
Fax: 402 762 4390
Email: smith@email.marc.usda.gov
Single pass sequencing. Bases called and alt_trimmed with phred
v0.980904.e. Vector identified by cross_match with the -minscore 18
                                                                                                                                                                                                                                                                                                        Contact: Smith TPL
USDA, ARS, US Meat Animal Research Center
PO Box 166, Clay Center, NE 68933-0166, USA
                                                                                                         BACKWARD: GTTTTCCCAGTCACGACG
Plate: 52 row: G column: 21
Seq primer: ATTTAGGTGACACTATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sus scrofa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sus scrofa (pig)
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                                                    /organism="Sus scrofa"
/mol_type="mRNA"
/db_xref="taxon:9823"
/tissue_type="pooled"
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                                                                                          ion/Qualifiers
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                                                              GTGTCTGCAAGCCCGCTGC
                                                                                               GCGTTTTCATTCCCGCTGC 349
                                                                                                                                                                                                                                                          Conservative
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/clone lib="MARC IPIG"
/note="Vector: pCMV SPORT6; Site_1: NotI; Site_2: SalI;
/ibrary made from pooled tissue from day 11, 13, 15, 20, and 30 embryos."
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54.0%;
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                                                                   Email: walburged.
Plate: 1008061 row: 2,
Class: transposon-tagged.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   93;
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Zea mays
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High quality sequence stop: 606
Location/Qualifiers
                                                                                                                                                                                                                                                                                                            Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; PACCAD clade; Panicoideae; Andropogoneae; Zea
                                                                                                                                                      855 California Ave, Palo
Tel: 650 723 2227
Fax: 650 725 8221
                                                                                                                                                                                                               Contact: Walbot V
Department of Biological Sciences
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1008061A12.xl 1008 - RescueMu Grid I Zea mays
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/clone_lib="NCI_CGAP_Maml"
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/site_2: NotI; Cloned unidirectionally. Primer: Oligo dT.
Library constructed by Life Technologies. Investigator
providing samples: Gilbert Smith, NIH"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Mus musculus"
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/strain="FVB/N"
             /mol_type="genomic DNA"
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/db_xref="taxon:4577"
tissue_type="leaf"
                                                             organism="Zea mays"
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                                                                                                           pBeloBAC11
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/mol type="genomic DNA"
/db_xref="taxon:7227"
/clone="BACN15K14"
clone_lib="DrosBAC"
                                                                                            ocation/Qualifiers
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397 ATCGACGAAGCCTACGCAGTCACTGC 422
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                278 TTCGCCGACTCCACCGACGTGGCGCTCATGCTCCTGGGCGCGCTCGGGGCCGTGGCCAAC 219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  223 TTCGCGGGCTCCACCGAAATGCTGGTCATCGCCCTCGTTGTGGGCGCAGCGCCCCTGGGC 282
Submitted (23-JTL-1999) Genoscope - Centre National de Sequencage : BP 191 91006 EVRY cedex - FRANCE (B-mail : seqref@genoscope.cns.fr )

Determination of this BAC-end sequence was carried out as part of a collaboration with the European Drosophila Genome Project (EDGP) - http://www.edgp.ebi.ac.uk - This Drosophila melanogaster BAC library (Dros BAC) was made by Alain sollaud at CEPH (Centre d'Etude du Polymorphisme Humain) with funding provided by a MRC project grant. The DNA was prepared from embryos by Alain Bucheton and Genevieve Payan. It has been constructed in the vector
                                                                                                                                                                                                                                                                                                                                                                                                                 Drosophila melanogaster (fruit fly)
Drosophila melanogaster
Drosophila melanogaster
Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.

[ bases 1 to 1201)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                fly), genomic survey sequence.
AL106545
AL106545.1 GI:5622456
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Direct Submission
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/clone_lib="1008 - RescueMu Grid I"
/note="Organ: leaf; Vector: RescueMu (engineered from
pBlueScript backbone); Site_1: BamHI; Site_2: Bg]II;
RescueMu is a 4.9 kb, modified maize Mu transposon
designed to allow plasmid rescue from total genomic DNA.
Mu elements insert preferentially into transcription
units. For more information on RescueMu, go to the web
site www.rmdb.iaetate.edu and follow the links for
'RescueMu.' Grid I was grown at Berkeley in 2001. DNA was
extracted from leaf punches, double digested using BamHI
and Bg]II, and ligated to form circular plasmids. DH10B
cells were transformed and then screened on LB plates with
ampicillin."
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Pred. No. 55;
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nd of BAC
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BG845919.1 GI:14227103
EST.
Chlamydomonas reinhardtii
Chlamydomonas reinhardtii
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             65
                     Unpublished (2000)
Contact: Charles I
DCMB Box 91000
                                                                                  1 (bases 1 to 730)
Grossman,A., Davies,J., Federspiel,N., Harris,E., Lefebvre
Grossman,A., Davies,J., Stern,D. and Surzycki,R.
McDermott,J.P., Silflow,C., Stern,D. and Surzycki,R.
Analyses of the Chlamydomonas reinhardtii Genome: A Model,
Unicellular System for Analyzing Gene Function and Regulat
Vascular Plants; project phase 2
                                                                                                                                                                                                                        Eukaryota; Viridiplantae; Chlorophyta; Chlorophyceae; Volvocales; Chlamydomonadaceae; Chlamydomonas
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1024011F06.x1 C. reinhardtii CC-1690, normalized, Lambda Zap II
Chlanydomonas reinhardtii cDNA, mRNA sequence.
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University
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/clone Tib="Homo sapiens PLACENTA COT 25-NORMALIZED"
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/note="lat strand cDNA was primed, double-strand cDNA was
primer. Five prime end enriched, double-strand cDNA was
digested with Not I and cloned into the Not I and EcoR V
sites of the pCMVSPORT 6 vector. Library was normalized."
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/mol_type="mRNA"
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16.3%;
                                           Hauser
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Pred. No. 5
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                                                                                                                    Gene Function and Regulation
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Contact: Robert Strausberg, Ph.D.

Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Gilbert Smith, Ph.D.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortiun
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: NGC clone distribution informa
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                691 CCCCGGTGTCAAGGGCGGGCAAGCCCGGCCCCCCAAGATTCAGGGCATCGGCGCCGGC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Tel: 919 613 8159
Fax: 919 613 8177
Email: chauser@dul
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        96;
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                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; V
Mammalia; Eutheria; Rodentia; Sciurognath
1 (bases 1 to 1454)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                       BF101158 1473 F1 NCI_CGAP_Mam1 Mus
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BF101158.1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="Vector: pBluescript II SX-; Site_1: EcoRI; Site_2: XhoI; This library, constructed by John Davies and Jeffrey McDermott, combines cDNAs from CC-1690 cells grown to mid-log phase in TAP (acetate-containing) medium in the light, TAP medium in the dark, HS (minimal) medium in the light, TAP medium in the dark, HS (minimal) medium in ambient levels of CO2 and HS medium bubbled with 5% CO2. PolyA mRNA was purified from each sample, pooled and cDNA synthesized. The cDNA was directionally cloned into lambda ZAP II (Stratagene) in the EcoRI (5') and XhoI (3') sites. pBluescript II SK plasmids were excised from the lambda ZAP clones by superinfection with ExAssist (Stratagene) phage. The library was normalized using method 4 described in Bonaldo et al (1996) Genome Research 6: 791-806."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           chauser@duke.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Chlamydomonas reinhardtii"
/mol type="mRNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /mol_type="mRNA"
/grrain="CC-1690 wild type mt+ 21gr"
/db xref="taxon:3055"
/clone_lib="C. reinhardtii CC-1690, normalized, Lambda Zap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
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Pred. No. 53;
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m1 Mus musculus cDNA clone
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Sciurognathi; Muridae;
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                                                                                                  Consortium
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Matches 89; Conser
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                                                                                                                                                                                                                                                                                372 CCGTTTCTATTCGGTTTTCGCGCTTATCGACGAAGCCTACGCAGTCACTGCGGC 425
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                                                                                                                                                                                                                                                                                                                                                                312 CTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAAAACCCCCATTGC 371
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OSJNEC13F02.f OSJNEc Oryza sativa (japonica cultivar-group)
Clone OSJNEC13F02 5', mRNA sequence.
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Oryza sativa (japonica cultivar-group)
Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FORWARD: gta aaa cga cgg cca gtg FORWARD: gta aaa cga cgg cca gtg BACKWARD: gga aac agc tat gac cat g plate: 13 row: F column: 02 Seg primer: gta aaa cga cgg cca gtg.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            85721-0088, USA
Tel: 520 626 3967
Fax: 520 621 9288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Arizona Genomics Institute
University of Arizona
Biological Sciences West, 448A, P.O. Box 210088, Tucson,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Jantasuriyarat, C., Lu, G., Gowda, M., Hatfield, J., Zhou, B., Mazur, Kudrna, D., Dean, R., Soderlund, C., Wing, R. and Wang, G. Large-scale identification of ESTs involved in the interaction
                                  BH887860
LB01712a.d_SP6.1 Leishmania major Friedlin BAC Library Leishmania major genomic clone LB01712a, genomic survey sequence.
BH887860
BH887860.1 GI:22133383
GSS.
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1 (bases 1 to 835)
Leishmania major
                   Leishmania major
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /tissue_type="Leaf"
/dev_stage="3 week"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /cultivar="Nipponbare"
/db_xref="taxon:39947"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            organism="Oryza sativa
/mol_type="mRNA"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        'clone lib="OSJNEc"
note="Vector: pBluescript II KS +; Site_1: EcoRI; Site_2:
thoI; 6 hrs after innoculation with Rice Blast (C9240-1)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 lone="OSJNEc13F02"
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Pred. No. 34;
0; Mismatches
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1 (bases 1 to 697)

1 (bases 1 to 697)

Nyler,P.J., Vogt,C., Munden,H., R.
Myler,P.J., Vogt,C., Munden,H., R.
Fazelinia,G., Aggarwal,G., Nelson
Stuart,K. and Ragland,M.

Tirmania major Friedlin BAC En
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241 ATGCTGGTCATCGCCTCGTTGTGGGCGCCAGCGCCCTGGGCGCCATCGCGCTCACCACA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                            459 CCACTGGTCACTGTGGTCATCGTCTCGGCCATCTCA 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tel: 206 284-8846
Fax: 206 284-0313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Seattle Biomedical Research Institute 4 Nickerson Street, Seatttle, WA 9810 Tel: 206 284-8846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Unpublished (2002)
Other_GSSs: LB01712a.d_T7.1
             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 1108)

Li,W.B., Gruber, C., Jessee, J. and Polayes, D.

Full-length cDNA libraries and normalization

Unpublished (2001)

Contact: Genoscope

Genoscope - Centre National de Sequencage

Bp 191 91006 EVRY cedex - France

De 191 91006 EVRY cedex - France
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Class: BAC ends
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                                                                                                                                                                                                                                                                                                            BX382084 linear ESBX382084 Homo sapiens PLACENTA COT 25-NORMALIZED Homo clone CS0DI074YC24 5-PRIME, mRNA sequence.
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seqref@genoscope.cns.fr,
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/clone lib="Leishmania major Friedlin BAC Library"
/clone wector: pCG270; Site 1: HindIII; Genomic DNA from
Leishmania major Friedlin in agarose blocks was partially
digested with HindIII, size selected, and ligated with
HindIII-digested pCG270 vector DNA. 1038 clones were
picked and arrayed in 384- and 96-will plates Library
construction and arraying was carried out by ResGen
Corporation and clones and filters are available from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Leishmania major"
/mol_type="genomic DNA"
/strain="Friedlin"
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/clone="LB01712a"
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Web : www.genoscope.cns.fr
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Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila
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ALOS3013
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AL053013.1 GI:4934461
GSS.
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                                            TTTCTATTCGGTTTTTCGCGCTTATCGACGAAGCCTACGCAGTCACTGCGGCCAGGCCCGC
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  YBMBCYTSTSCGGSSSSSGKGGVTKCGCGGCGSSSTNGMBGTSSACSSSSSSSSSSSSSSSSS
                                                                                    CSCCTCCCSYSYSSSTSSSSSTSWGSTSGSSSSSYGTSSSSDSTSTCCSCCCYMCTCCST
                                                                                                                            CCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAAAACCCCATTGCCCG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            /mol_type="genomic DNA/db xref="taxon:7227" /clone="BACR19D16" /clone lib="RPCI-98" /note="end : TET3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Drosophila melanogaster"
/mol_type="genomic DNA"
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Li,W.B., Gruber,C., Jessee,J. and Polayes,D. Full-length cDNA libraries and normalization Unpublished (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Email: seqref@genoscope.cns.fr, Web: www.genoscope.cns.fr
Library was constructed by Life Technologies, a division of
Invitrogen. Contact: Feng Liang Email: fliang@lifetech.com t
http://fullength.invitrogen.com/ Invitroden Corporation 1600
Faraday Avenue Genoscope sequence ID: CSODIO79DG08NP1.
Location/Qualifiers
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BP 191 91006 EVRY cedex - France
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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                                                                                                                                       KKKKKKKCCCCBKBCCCCCKYKCCKBKKYCCYKCKKKKKCKKKYCCCBCCCKKKCBCYCC 1124
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/tissue="PLACENTA COT 25-NORWALIZED"
/tissue Type="PLACENTA COT 25-NORWALIZED"
/clone lib="Homo sapiens PLACENTA COT 25-NORWALIZED"
/note="Ist strand cDNA was primed with a NotI-oligo (dT)
/note="Ist strand cDNA was primed with a NotI-oligo (dT)
/note="Ist strand cDNA was primed with a NotI and cONA was
digested with Not I and cloned into the Not I and EcoR V
sites of the pCMVSPORT 6 vector. Library was normalized."
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/db_xref="taxon:9606"
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Pred. No. 28;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CNS009WA 787 bp DNA linear GSS 03-JUN-1999
Drosophila melanogaster genome survey sequence T7 end of BAC #
BACR20K04 of RPCI-98 library from Drosophila melanogaster (fruit
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Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Neopeera; Endopterygota; Diptera; Brachycera; Miscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
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AL054013
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                                                                                                                                                                                                                  AGGTCAGGCCTATTTGCGGCGCGCTGCTGATCTTCTTGGGTCTGTTGA 718
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/mol_type="genomic DNA"
/db_xref="taxon:7227"
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/note="end : T7"
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                                                                                                                                                                                                                                                                                                                                                                                            860 MWMNKNKAMYKKONIMIMIMIMIKAMIMCIMIMIKKNIMIMIBKKNICMIMIKKMCCIMIKKKKHIKKNIMIMKK 919
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BP 191 91006 EVRY cedex - France
Email: segref@genoscope.cns.fr, 1
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Mammalia; Eutheria;
1 (bases 1 to 1201)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 CATTGCTGGTGAACTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCA
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                                                        MMMMMCKKMVMKKKKMCKKKBMSKKMMMNKKVCKMBBMCMSKGGCMMCGCMCKGCVGCMN 1099
AAATTAAGGGCCTCGAGTTCGCCCTTTGCTCTCTTTGTCACGCTGACTTTGGATTCCT 598
                                                                                                                                                                    VKKVMCMCDBKMCMCKKKBMKKVCCKKMCMMMMMCAMKVMMMBAMMMBAMVVMMMMN 1039
                                                                                                                                                                                                                                                                             MMICKKBMMCKKNKWMNKWMVKKKKAMMNBKCVMKMKMKMCCKKVMMBKMCAKKKKMCMC 979
                                                                                                        ACTCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTG 538
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /tissue type="PLACENTA COT 25-NORMALIZED"
/clone_Tib="Homo sapiens PLACENTA COT 25-NORMALIZED"
/note="Ist strand cDNA was primed with a NotI-oligo(dT)
primer. Five prime end enriched, double-strand cDNA was
digested with Not I and cloned into the Not I and EcoR \
sites of the pCMVSPORT 6 vector. Library was normalized
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/mol_type="mRNA"
/db_xref="taxon:9606"
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Eutheria; Primates; Catarrhini; Hominidae; Homo.
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Pred. No. 19;
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RESULT 2
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                                                                                                                                                                                                                                                                                                                                                                                                          Email: seqref@genoscope.cns.fr, Web: www.genoscope.cns.fr
Library was constructed by Life Technologies, a division of
Invitrogen. Contact: Feng Liang Email: fliang@lifetech.com |
http://fulllength.invitrogen.com/ InVitrogen Corporation 1600
Faraday Avenue Genoscope sequence ID: CSODI015CA02NP1.
Location/Qualifiers
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1 (bases 1 to 1201)
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                                                                                                                                                                              /db_xref="taxon:9606"
/clone="CSODIO15YB03"
/clone="CSODIO15YB03"
/clone=Tib="Homo sapiens PLACENTA COT 25-NORMALIZED"
/note="List strand cDNA was primed with a NotI-oligo(dT)
/note="List strand cDNA was primed with a NotI-oligo(dT)
primer. Five prime end enriched, double-strand cDNA was
digested with Not I and cloned into the Not I and EcoR V
sites of the pCMVSPORT 6 vector. Library was normalized."
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/mol_type="genomic DNA"

/db_xref="taxon:9606"
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1 (bases 1 to 743)

1 (bases 1 to 743)

Whitelaw,C.A., Quackenbush,J., Van Aken,S., Utterback,T.,

Resnick,A., Fraser,C.M., Budiman,M.A., Bedell,J.A., Rohlfing,T.,

Citek,R.W., Nunberg,A., Robbins,D. and Lakey,N.

Consortium for Maize Genomics

Unpublished (2002)

Other GSSs: OGUAX55TV

Consot: Cathy Whitelaw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        743 bp DNA linear GSS 19-JI OGUAX55TH ZM_0.7_1.5_KB Zea mays genomic clone ZMMBMa0397J14, genomic survey sequence.
                                                                                                                                                                                                                                                                                                                         9712 Medical Center Drive,
Tel: 301-838-5843
Fax: 301-838-0208
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/clone=lib="ZM_0.7_1.5_KB"
/note="Vector: pBCSK-; Site 1:
methylation filtered genomic DN
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/strain="B73"
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Copyright (c) 1993 - 2004 Compugen Ltd.
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ALIGNMENTS

	Li,J., Protopopov,A., Kashuba,V., Ernberg,I Wahlestedt,C. TITLE NotI clones in the analysis of the human ge JOURNAL Nucleic Acids Res. 28 (7), 1635-1639 (2000) MEDLINE 20175728	Manmalia, Eutheria, Pr REFERENCE 1 (bases 1 to 473) AUTHORS Zabarovsky, E.R., Gizat	ACCESSION AQ936633.1 GI:7213011 KEYWOXDS GSS. SOURCE Homo sapiens (human) ORGANISM Homo sapiens	AQ936633 LOCUS AQ936633 DEFINITION HSJ41-905 Human NotI c
Contact: Podowski RM Center for Genomics Research Karolinska Institute	Li.J., Protopov.A., Kashuba,V., Ernberg,I., Winberg,G. and Wahlestedt,C. Wahlestedt,C. NotI clones in the analysis of the human genome Nucleic Acids Res. 28 (7), 1635-1639 (2000) 20175728 20175728	Mammalia; Eutheria; Primates; Catarrinia; Hominidae; Homo. 1 (bases 1 to 473) 2 abarovsky, E.R., Gizatullin, R., Podowski, R.M., Zabarovska, V.V., Zabarovsky, E.R., Gizatullin, R., Podowski, R.M., Zabarovska, V.V., Xie, L., Myrayenko, O.Y., Kozyray, S., Petrenko, L., Skobelaya, N.,	Ordustus Ofusiustus Vortobrostos Elitaboogromi.	AQ936633 473 bp DNA linear GSS 23-AUG-2000 HSJ41-905 Human NotI clones Homo sapiens genomic, genomic survey

Search completed: April 17, 2004, 20:13:05
Job time: 88.0151 secs

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Sequence 1993, Application US/60548091

GENERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENERIC FOLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: STROKE, METHODS OF DETECTION AND USES THE REFERENCE: CLOO1506
CURRENT APPLICATION NUMBER: US/60/548,091
CURRENT FILING DATE: 2004-02-27
NUMBER OF SEQ ID NOS: 24433
SOFTWARE: FRASTSQ for Windows Version 4.0
SEQ ID NO 19938
LENGTH: 201
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; ORGANISM: Homo sapiens
US-60-548-091-19934
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US-60-548-091-19934
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US-60-548-091-19938
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US-60-548-091-19938
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CURRENT FILING DATE: 2004-02-27
NUMBER OF SEQ ID NOS: 24433
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 19934
LENGTH: 201
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GENERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: STROKE, METHODS OF DETECTION AND USES THEREOF
FILE REFERENCE: CL001506
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Best Local Similarity 52.7
Matches 69; Conservative
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Best Local (
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Local Similarity 52.7%;
hes 69; Conservative
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                                  ACCCCATTGCC 372
                                                                    GCTTCAGGAGCACCCGGCACAATTTCAACTCCATGGCGTTCCCGCTGCTGGGATTCTACC
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Pred. No. 0.67;
1; Mismatches 6
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RESULT 14 US-10-767-701-9054

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CGTCGCTCAAGTACC 204

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; TYPE: DNA
; ORGANIEM: Sorghum bicolor
; FEATURE: IMPORMATION: Clone ID: 14593439
US-10-767-701-23189
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US-10-767-701-23189
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APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(53535)8
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 9054
LENGTH: 1028
                                                                                                                                                                                                                                                                                                                         APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(5.535)B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 23189
LENGTH: 519
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Best Local :
                                                                                                                                                                               Matches
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                                                                                                                                                                           / Match 4.3%;
Local Similarity 52.6%;
les 71; Conservative
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                                                                     242 TGCTGGTCATCGCCTTCGTTGTGGGCGCAGCGCCCTGGGCGCCATCGCGCTCACCACAT 301
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67; Conserv
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                                       cccrcarcaccacacrcaccaaaaaccacaccacacacrcrrcaccccaaaacacaccaaaac 189
     TGCTGGTGAACTTCC 316
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Pred. No. 1.
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Query Match
Best Local Similarity 54.9
67; Conservative

54.5%;

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322 GT 323

213 CT 212

273

US-10-765-790-62

APPLICANT: APPLICANT:

Burgess, Chris Gannon, Allison Harvey, Jeanne Lechner, John F.

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Sequence 5686, Application US/60548091

GENERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: STROKE, METHODS OF DETECTION AND USES THEREOF
FILE REFERENCE: CL001506
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TITLE OF INVENTION: Identification and Verification of Methylation Marker Sequences
FILE REFERENCE: 1657/2035
CURRENT APPLICATION NUMBER: US/10/765,790
CURRENT FILING DATE: 2004-01-27
PRIOR APPLICATION NUMBER: US 10/737,082
PRIOR PILING DATE: 2003-12-16
NUMBER OF SEQ ID NOS: 300
SOFTWARE: Patentin version 3.2
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Pred. No. 0.53
0; Mismatches
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0.53;
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CURRENT FILING DATE: 2001-03-13
PRIOR APPLICATION NUMBER: 60/188,914
PRIOR APPLICATION NUMBER: 60/198,914
PRIOR APPLICATION NUMBER: 60/192,033
PRIOR APPLICATION NUMBER: 60/192,033
PRIOR FILING DATE: 2000-03-24
PRIOR FILING DATE: 2000-04-14
PRIOR FILING DATE: 2000-04-14
PRIOR FILING DATE: 2000-04-24
PRIOR APPLICATION NUMBER: 60/207,702
PRIOR APPLICATION NUMBER: 60/207,702
PRIOR APPLICATION NUMBER: 60/207,702
PRIOR FILING DATE: 2000-06-26
PRIOR FILING DATE: 2000-06-26
PRIOR FILING DATE: 2000-06-23
PRIOR APPLICATION NUMBER: 60/21,849
PRIOR FILING DATE: 2000-08-16
PRIOR APPLICATION NUMBER: 60/230,732
PRIOR APPLICATION NUMBER: 60/230,732
PRIOR PILING DATE: 2000-09-07
PRIOR PILING DATE: 2000-09-07
PRIOR PILING DATE: 2001-02-07
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PRIOR PRIOR PRIOR PRIOR FILING DATE: 3.2
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US-09-804-291A-500
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; ORGANISM: Homo
US-09-804-291A-500
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Best Local Similarity
Matches 68; Conserv
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SEQ ID NO 500
LENGTH: 930
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GENERAL INFORMAT
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Best Local Similarity 54.0%;
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TITLE OF INVENTION: HUMAN OLFA
FILE REFERENCE: 10037.54287US
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                                                                    629
                                                                                                                                    587 CTTTGG 592
                                                                                                                                                                                              569 CAAGCCTCTTAGAACTGATGGTCATCCTCTTGGCCGTTGTGACTCTCATGGTTACTCTGG
                                                                                                                                                                                                                                                     527 TGATTÇCTTTTGAAATTAAGGGCCTCGAGTTCGCCCTTTTGCTCTTTTGTCACGCTGA 586
                                                                                                                                                                                                                                                                                                                                                                                   467 AAATAGCGTTTCACTCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGT 526
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                                                                    IGCIGG
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Pred. No. 3
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// TYPE: DNA
// ORGANISM: Homo sapiens
US-10-765-790-62

Query Match Best Local :

y Match 4.5%; Local Similarity 49.7%; les 86; Conservative

SEQ ID NO 62 LENGTH: 23490

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RESULT 10 US-60-548-091-5686

Sequence 983, Application US/10100683 GENERAL INPORMATION:

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Human Secreted Proteins

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                                                                                                                                                                                                                                       CURRENT APPLICATION NUMBER: US/10/100,683
CURRENT FILING DATE: 2002-03-19
PRIOR APPLICATION NUMBER: US 60/040,162
PRIOR APPLICATION NUMBER: US 60/043,576
PRIOR APPLICATION NUMBER: US 60/043,576
PRIOR FILING DATE: 1997-04-11
PRIOR APPLICATION NUMBER: US 60/047,601
PRIOR APPLICATION NUMBER: US 60/047,601
PRIOR APPLICATION NUMBER: US 60/047,601
PRIOR APPLICATION NUMBER: US 60/056,845
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GENERAL INFORMATION:
APPLICANT: Rosen, et al.
TITLE OF INVENTION: Human Secreted Proteins
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Best Local :
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CURRENT APPLICATION NUMBER: US/10/100,683
CURRENT FILING DATE: 2002-03-19
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PRIOR FILING DATE: 1997-03-07
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                                          OR FILING DATE: 1997-08-22
OR APPLICATION NUMBER: US 60/043,580
OR FILING DATE: 1997-04-11
OR APPLICATION NUMBER: US 60/047,599
OR FILING DATE: 1997-05-23
OR APPLICATION NUMBER: US 60/056,664
OR FILING DATE: 1997-08-22
OR APPLICATION NUMBER: US 60/043,314
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APPLICATION NUMBER: US 60/043,314
FILING DATE: 1997-04-11
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APPLICATION NUMBER: US 60/056,845
FILING DATE: 1997-08-22
APPLICATION NUMBER: US 60/043,580
FILING DATE: 1997-04-11
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FILING DATE: 1997-04-11
APPLICATION NUMBER: US 60/047,632
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ilarity 75.4%;
Conservative
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Pred. No. 0.79
0; Mismatches
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OTHER INFORMATION: Clone ID: US-10-767-701-744
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NUMBER OF SEQ ID NOS: 13468
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 11511
LENGTH: 7071
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LENGTH: 666
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GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
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Best Local Similarity
Matches 43; Conserv
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Matches
                                                                                NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 744
LENGTH: 561
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                                                                                                                                    TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement FILE REFERENCE: 38-21(53535)B CURRENT EPPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
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APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
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                                  ORGANISM: Sorghum bicolor FEATURE:
                                                                     TYPE: DNA
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62; Conser
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Cao, Yongwei
                                                                                                                                                                                                                                                                                                                                                                                                                  cccreececcarcecercaccarrecreereaacrrecececace 322
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                    SORBI-28MAY03-CLUS124346_1
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Pred. No. 0.42;
0; Mismatches 46;
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Pred. No. 1.
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CORRESPONDENCE ADDRESS:
ADDRESSEE: GENOME THERAPEUTICS CORPORATION

STREET: 100 Beaver Street

NUMBER OF SEQUENCES: 7310

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NAME/KEY: misc feature;
LOCATION: (B) LOCATION 1...768;
SEQUENCE DESCRIPTION: SEQ ID NO: 1266;
US-10-417-884A-1266
                                                             RESULT 3
US-10-767-701-5263
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APPLICATION NUMBER: US/10/417,884A
PILING DATE: 17-Apr-2003
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: US/09/107,532
FILING DATE: 30-Uun-1998
APPLICATION NUMBER: 60/085,598
FILING DATE: 14 May 1998
APPLICATION NUMBER: 60/051571
FILING DATE: 14 May 1998
APPLICATION NUMBER: 60/051571
FILING DATE: JUly 2, 1997
ATTORNEY/AGENT INFORMATION:
NAME: Ariniello, Pamela Deneke
REGISTRATION NUMBER: 40,489
REFERENCE/DOCKET NUMBER: GTC-012
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION 1266:
SEQUENCE CHARACTERISTICS:
ILBURGER: ASSENCE SALES
ILBURGER: ASSENCE SALES
ILBURGER: 1781)893-8277
INFORMATION POR SEQ ID NO: 1266:
SEQUENCE CHARACTERISTICS:
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Best Local
Sequence 5263, Application US/10767701
GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
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MEDIUM TYPE: CD/ROM ISO9660
COMPUTER: PC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: circular MOLECULE TYPE: DNA (genomic) HYPOTHETICAL: NO
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                                                                                                                                                     272
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             104;
                                                                                                                                                                                                                                                                                                                                                                                                           92
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OPERATING SYSTEM: <Unknown>
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TYPE: nucleic acid
STRANDEDNESS: double
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                                                                                                                                                                                                                                    CTGGTTCTGCCCAATTTATCACAGTCAGCATGCTTGCTAGTCACAGCCCATTGCTTTCCA
                                                                                                                                                                                                                                                                               CGGGCTCCACCGAAATGCTGGTCATCGCCCTCGTTGTGGGCGCAGCGCCCCTGGGCGCCA 286
                                                                                                                                                                                                                                                                                                                                                                                                         TCAAAGACACGTTACCTACCGTTTTCGGTTATATCGGTÁTTGGACTTGCATTTGGTATCG 151
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ilarity 49.3%;
Conservative
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RESULT 5 US-10-100-683-983/c

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APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(53535)8
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 5263
LENGTH: 619
TYPE: DNA
ORGANISM: Sorghum bicolor
FEATURE:
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US-10-767-701-10866
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APPLICANT: Cao, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(5)3358
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 10866
LENGTH: 1034
TYPE: DNA
ORGANISM: SOrghum bicolor
FEATURE:
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Best Local Similarity
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Best Local Similarity
Matches 88; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              252 GTGGCGCTGCTCA 264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               346 CTGCATGTGGTCA 358
                                                                                                                                         301 TIGCTGGTGAACTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAA 360
                                                                    361 AACCCCATTGCCCGTTTCTATTCGGTTTTCGCGCTTATCGACGAAGCCTACGCAGTC 417
                                                                                                                                                                                                                                                                                   151 ATGGCGGCGCCTACTACGGCGGAGGCCCTGCGCCACCGGCGGCGGCGGCGCCCCT 210
                                                                                                                                                                                                                                                                                                                                                            241 ATGCTGGTCATCGCCCTCGTTGTGGGCGCAGCGCCCTGGGCGCCATCGCGCTCACCACA 300
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AAGGCCATCAGCCTCTCCGACGGCGACTTCACCGTCACCGACGCCAACGGCGCCGTC 327
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54.1%;
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Pred. No. 0.45;
0; Mismatches 89;
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Minimum DB
Maximum DB
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Perfect score:
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Maximum Match 100%
Listing first 45 s
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score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                       seq length: 0
seq length: 2000000000
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| cgm2_6/ptodata/1/pna/USO6_NEW_COMB.seq:*
| cgm2_6/ptodata/1/pna/USO6_NEW_COMB.seq:*
| cgm2_6/ptodata/1/pna/USO7_NEW_COMB.seq:*
| cgm2_6/ptodata/1/pna/USO8_NEW_COMB.seq:*
| cgm2_6/ptodata/1/pna/USO8_NEW_COMB.seq:*
| cgm2_6/ptodata/1/pna/USO8_NEW_COMB.seq:*
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US-10-767-701-10854
US-10-417-884A-1266
US-10-767-701-5263
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US-10-100-683-11511
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US-10-767-701-7545
US-10-767-701-744
US-10-765-790-62
US-60-548-991-568
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US-10-767-701-20159
US-10-767-701-3159
US-10-775-920-136
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Sequence 10854, A
Sequence 1266, Ap
Sequence 5263, App
Sequence 913, App
Sequence 11511, A
Sequence 7545, Ap
Sequence 7545, Ap
Sequence 62, App
Sequence 62, App
Sequence 500, App
Sequence 1993, A
Sequence 1993, A
Sequence 1993, A
Sequence 2189, Ap
Sequence 14711, A
Sequence 14711, A
Sequence 137, Ap
Sequence 136, App
Sequence 137, App
Sequence 137, App
Sequence 459, App
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PCT-IL04-00078-35	US-10-769-565-8	US-10-763-450-8	10-7	PCT-US03-38685-2	US-10-767-701-3886	US-10-796-307-8770	10-796-307-8771	10-796-307-259	US-10-796-307-258	US-60-548-091-5633	PCT-US04-07467-29	US-60-555-303-460	US-60-552-390-625	-60-555-303-	50-5	50-5	50-59	-10-775-920-
4-00	69-5	63-4	67-7	3-38	67-7	96-3	96-3	96-3	96-3	48-0	4-07	55-3	52-3	55-3	0-552-390-627	0-555-303-461	0-552-390-623	15-9
078-	65-6	50-6	01-1	685-	01-3	07-8	07-8	07-2	07-2	91-5	467-	03-4	90-6	03-4	90-6	03-4	9-06	T-02
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ALIGNMENTS

RESULT 2 US-10-417-884A-1266 ; Sequence 1266, Application US/1041/bo... ; GENERAL INFORMATION: ; APPLICANT: Lynn A Doucette-Stamm ar APPLICANT: Lynn A DOUCEIC ACID AN' ENTEROCOCCUS FA Sequence 10854, Application US/10767701 SEQUENCE INFORMATION: APPLICANT: KOVALIC, David K. APPLICANT: Cao, Yihua APPLICANT: Cao, Yihua APPLICANT: Cao, Yongwei TITLE OF INVENTION: Nucleic Acid Molecules and Other TITLE OF INVENTION: Plants and Uses Thereof For Pla FILE REFERENCE: 38-21(5355)8 CURRENT APPLICATION NUMBER: US/10/767,701 CURRENT FILING DATE: 2004-01-29 NUMBER OF SEQ ID NOS: 63128 SEQ ID NO 10854 TEVEN: DNA TEVEN: DNA ; OTHER INFORMATION: Clone ID: SORBI-28MAY03-CLUS47627_1 US-10-767-701-10854 RESULT 1 US-10-767-701-10854 Query Match Best Local Similarity 49.3 Matches 105; Conservative ORGANISM: Sorghum bicolor FEATURE: TYPE: DNA 251 TCGCCCTCGTTGTGGGCGCAGCGCCCCTGGGCGCCATCGCGCTCACCACTTGCTGGTGA 310 131 TGGGCATGTACCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATACGGCTACGAAT 190 202 311 ACTTCCGCCACGTATTCTATGCGTTTTCATTCC 343 191 GGTGGGCAĞCÇÇÇAÇTGTTTTCÇGGCCTĞATTTTÇĞÇGĞĞÇTÇCACÇĞAAATGÇTGGTÇA 250 8 22 TGGTGCTCAACATGGTGGCGGGTGGCTGGCTTCTCGGCCGCGCTCAACAGCGGCTACG 81 GGTCCGTCCTCGCCTCCGTCTTCTCCCCTCC 234 GCCCGCTCCTCGTGGGCCTCTGGGCCCCGCTGCTCCGCCCGCCCACCATCGTGGTGCTCT 201 AGICCIGGGCCCTCTTTGGCAAGGTGTTCTTCGCCGCCTCGGTCGTCGCCCACCTCG 141 49.38; Acid Molecules and Other Molecules Associated With <u>,,</u> Score 40.2; DB 6; Length 1 Pred. No. 0.007; 0; Mismatches 108; Indels Length 1014; 0 Gaps 0

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and David Bush
AND AMINO ACID SEQUENCES RELATING TO
FAECIUM FOR DIAGNOSTICS AND THERAPEUTICS

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GRANISM: Homo sapien
FBATURE:
NAME/KEY: misc_feature
LOCATION: (1)...(751)
OTHER INFORMATION: n = A,T,C or G
US-09-439-313-12
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US-09-352-616A-12/c
; Sequence 12, Application US/09352616A
; Patent No. 6395278
; Patent No. 6395278
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; NAME/KEY: misc_feature
; LOCATION: (1) ... (751)
; OTHER INFORMATION: n = A,T,C or G
US-09-352-616A-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Day, Craig
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THERAPY AND
TITLE OF INVENTION: DIAGNOSIS OF PROSTATE CANCER
FILE REFERENCE: 210121.427C9
CURRENT PILICATION NUMBER: US/09/439,313
CURRENT FILING DATE: 1999-11-12
NUMBER OF SEQ ID NOS: 575
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 12
LENGTH: 751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION NUMBER: US/09/352,616A
CURRENT FILING DATE: 1999-07-13
NUMBER OF SEQ ID NOS: 472
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 12
LENGTH: 751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Dillon, Davin C.
APPLICANT: Harlocker, Susan Louise
APPLICANT: Jiang, Yuqui
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 4.8%; Score 36.4; DB 4; Length 751; Best Local Similarity 59.8%; Pred. No. 0.11; Matches 58; Conservative 0; Mismatches 39; Indels
                                                                                                                                                                                                  Query Match 4.8%;
Best Local Similarity 59.8%;
Matches 58; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Jiang, Yuqui
APPLICANT: Xu, Jiangchun
APPLICANT: Xu, Jiangchun
APPLICANT: Micham, Jennifer Lynn
TITLE OF INVENTION: COMPOUNDS FOR IMMUNOTHERAPY AND DIAGNOSIS
TITLE OF INVENTION: OF PROSTATE CANCER AND METHODS FOR THEIR USE
FILE REFERENCE: 210121.427C8
FILE REFERENCE: 210121.427C8
                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: DNA ORGANISM: Homo sapien
                                                                                              410 CGTTCTTCTTCATCNTCCTCNTCATCTTCATTGCTGAGGTNGCAGCTGCTGTGGTCGCCT 351
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350
                                                287 TCGCGCTCACCACATTGCTGGTGAACTTCCGCCACGT 323
                                                                                                                                                 227 CGGGCTCCACCGAAATGCTGGTCATCGCCCTCGTTGTGGGCGCAGCGCCCCTGGGCGCCA 28%
  TGGTGTACACCACAATGGCTGAGCACTTCCCTGACGT 314
                                                                                                                                                                                                  Score 36.4; DB 4; Length 751; Pred. No. 0.11; 0; Mismatches 39; Indels
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Search completed: April 19, 2004, 18:38:27 Job time : 68,4023 secs

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US-09-020-956-12/c
; Sequence 12, Application US/09020956
; Patent No. 6261562
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; ORGANISM: Pseudomonas aeruginosa
US-09-252-991A-2761
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PRIOR APPLICATION NUMBER: US:
PRIOR FILING DATE: 1998-07-27
PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
SEQ ID NO 2761
LENGTH: 2061
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Best Local (
                                                                                                                                                TOPOLOGY: linear
MOLECULE TYPE: cDNA
-09-020-956-12
                                                                                        Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 09-FEB-1998
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Maki, David J.
REGISTRATION NUMBER: 31,392
REFERENCE/DOCKET NUMBER: 2101
                                                                                                                                                                                                                                                                            TELEFAX: (206) 682-60
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION NUMBER: US/09/020,956
APPLICATION NUMBER: US/09/020,956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Xu, Jiangchun
APPLICANT: Dillin, Davin C.
TITLE OF INVENTION: COMPOUNDS FOR IMMUNOTHERAPY OF
                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
LENGTH: 751 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                              TELECOMMUNICATION INFORMATION: TELEPHONE: (206) 622-4900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET: 55...
STREET: 55...
CITY: Seattle
TATE: WA
TISA
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                                                                         Score 36.4; DB 3;
Pred. No. 0.11;
0; Mismatches 39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          701 Fifth Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          47;
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TCGCGCTCACCACATTGCTGGTGAACTTCCGCCACGT 323

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Sequence 12, App.

Application US/09439313

GENERAL INFORMATI

APPLICANT: Xu, APPLICANT: Di APPLICANT: Mi APPLICANT: Ha

Dillon, Davin C. Mitcham, Jennifer L.

Susan

Louise

Jiang Yuqui Reed, Steven G. Kalos, Michael Fanger, Gary Retter, Mark Solk, John

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US-09-030-607-12/c
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GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 12, Application US/09030607
                                                                                                                                                                              Query Match
                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                   TELEFAX: (206) 682-6031 INFORMATION FOR SEQ ID NO: 12:
                                                                                                                                                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
NAME: Maki, David J.
REGISTRATION NUMBER: 31,392
REFERENCE/DOCKET NUMBER: 210
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Re-Lease #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/030,607
FILING DATE: 25-FEB-1998
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Xu, Jiangcnum APPLICANT: Dillon, Davin TITLE OF INVENTION: COMPC
                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
LENGTH: 751 base pairs
TYPE: nucleic acid
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                                                                                                                                                                                                                                         MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES:
                                                                                                                                             Local Similarity hes 58; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY: UZIP: 98104
                                                                                                                                                                                                                                                                           STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                     TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: Seattle
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350 TGGTGTACACCACAATGGCTGAGCACTTCCCTGACGT 314
                                                                                                        227 CGGGCTCCACCGAAATGCTGGTCATCGCCCTCGTTGTGGGCGCAGCGCCCCTGGGCGCCA 286
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                                                                      CGTTCTTCATCNTCCTCNTCATCTTCATTGCTGAGGTNGCAGCTGCTGGTCGCCT 351
                                   TCGCGCTCACCACATTGCTGGTGAACTTCCGCCACGT 323
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                                                                                                                                           Score 36.4; DB 3; Length 751; Pred. No. 0.11; 0; Mismatches 39; Indels
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RESULT 8
US-09-252-991A-11418
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US-09-621-976-8976/c
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Matches
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NUMBER OF SEQ ID NOS:
SEQ ID NO 11418
LENGTH: 1086
                                                   GENERAL INFORMATION:
APPLICANT: Dumas Milne Edwards, J.B.
APPLICANT: Jobert, S.
APPLICANT: Giordano, J.Y.
APPLICANT: Giordano, J.Y.
APPLICANT: Giordano, J.Y.
APPLICANT: GENERIOS: ESTS and Encoded Human
FILE REFERENCE: GENERIO-054PR2
CURRENT APPLICATION NUMBER: US/09/621,976
CURRENT FILING DATE: 2000-07-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
APPLICANT: Marc J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 11418, Application US/09252991A Patent No. 6551795
                                                                                                                                                                                                      Sequence 8976, Application US/09621976 Patent No. 6639063
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NUMBER OF SEQ ID NOS: 19335
SOFTWARE: Patent.pm
SEQ ID NO 8976
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/09/252,991A CURRENT FILING DATE: 1999-02-18 PRIOR APPLICATION NUMBER: US 60/074,788 PRIOR FILING DATE: 1998-02-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Marc J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 107196.136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: US 60/094,190 PRIOR FILING DATE: 1998-07-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: DNA
ORGANISM: Pseudomonas aeruginosa
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nilarity 55.0%;
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                                                                                                              and Encoded Human Proteins
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; TYPE: DNA
; ORGANISM: Homo sapiens
US-09-621-976-8976
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US-09-252-991A-3205/c
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US-09-252-991A-2761
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                                                                                                              Sequence 2761, Application US/09252991A Patent No. 6551795
GENERAL INFORMATION:
APPLICANT: Marc J. Rubenfield et al.
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Best Local Similarity
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Best Local Similarity
     TITLE OF INVENTION: NUCLEIC ACID AND AMINOTITLE OF INVENTION: ARRUGINOSA FOR DIAGNO: FILE REFERENCE: 107196.136
CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
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                                                                            Rubenfield et al.

NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING
AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
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FILE BY THE PREFERENCE: 107196.136
CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 199-02-18
PRIOR FILING DATE: 1998-02-18
PRIOR PRIOR PRIOR NUMBER: US 60/074,788
PRIOR PRIOR PRIOR NUMBER: US 60/094,190
PRIOR PRIOR DATE: 1998-07-27
NUMBER OF SEG ID NOS: 33142
SEG ID NO 3205
LENGTH: 1140
TYPE: DNA
TYPE: DNA
TYPE: DNA
TYPE: DNA
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GENERRAL INFORMATION:
APPLICANT: Marc J. Rubenfield et al.
APPLICANT: MARC J. RUBENFIELD AND AMINO ACID SEQUENCES RELATING
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
TITLE OF INVENTION: 107196.136
THE DEFERENCE: 107196.136
THE DEFERENCE: 107196.136
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTMCWKCTTYWMAGTMMYRYRRYWYYAKRAKWSKRCTWSTTCYCMKYMAKKCWSYWWSMS
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                                                 GCGCCCTGGGCGCCATCGCGCTCACCACATTGCTGGTGAACTTCCGCCACG 322
                                                                                                   TACTTCCTGATCAACCTCGGCGCCGCCCTCGGCCCGGATCGGCCTGACTCTCGGCGTC
                                                                                                                                                     rccggcrgarrrrcgcgggcrccaccgaaargcrggrcarcgcccrcgrrgreggcgca 270
GCCGCCAGGCCACCTTCCTGGTCACCGCGCTGGTCTACTTCTGCTACG
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                                                                                                                                                                                                      Score 36.8; DB Pred. No. 0.1; 0; Mismatches
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Sequence 1266, Application US/09107532A
Patent No. 6583275
GENERAL INFORMATION:
GENERAL INFORMATION: APPLICANT: Lynn A Doucette-Stamm
APPLICANT: Lynn A Doucette-Stamm
TITLE OF INVENTION: NUCLEIC ACID F
ENTEROCOCCUS I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEX: 899149
INFORMATION FOR SEQ ID NO: 14:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 7218 base pair
TYPE: nucleic acid
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ATTORNEY/AGENT INFORMATION:
NAME: BENT, Stephen A.
REGISTRATION NUMBER: 29,768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: 30
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)836-9300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Match 6.1%; Score 46.2; DB 1; Length 7218; Local Similarity 5.2%; Pred. No. 0.00027;
                              CORRESPONDENCE ADDRESS:
ADDRESSEE: GENOME THERAPEUTICS CORPORATION
                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES: 7310
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITCATTCCCGCTGCATGTGGTCAAAAACCCCCATTGCCCGTTTCTATTCGGTTTTTCGCGC 394
COMPUTER: PC
OPERATING SYSTEM: <Unknown>
SOFTWARE: ASCII
                                                                                                                                                                                              STREET: 100 Beaver Street CITY: Waltham
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGATCGCAGAGTTGATTCCTTTTGAAATTAAGGGCCTCGAGTTCGCCCCTTTGCTCTCT 574
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AND AMINO ACID SEQUENCES RELATING TO
FAECIUM FOR DIAGNOSTICS AND THERAPEUTICS
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                                                                                           GENERAL INFORMATION:
APPLICANT: Marc J. Rubenfield et al.
APPLICANT: Marc J. Rubenfield et al.
APPLICANT: MICCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 107194.136
CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
                                                                       SEQ ID NO 11376
                                                                                                                                                                                                                                                                                                                                                                                Sequence 11376, Application US/09252991A Patent No. 6551795
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       ORGANISM: Pseudomonas aeruginosa
                                                       ENGTH: 1038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: 60/085,598
FILING DATE: 14 May 1998
APPLICATION NUMBER: 60/051571
FILING DATE: July 2, 1997
ATTORNEY/AGENT INFORMATION:
NAME: Aziniello, Pamela Deneke
REGISTRATION NUMBER: 40,489
REFERENCE/DOCKET NUMBER: GTC-012
TELECOMMUNICATION INFORMATION:
TELEPHONE: (781)893-5007
TELEPAX: (781)893-8277
TELEPAX: (781)893-8277
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ANTI-SENSE: NO
ORIGINAL SOURCE:
ORGANISM: Enterococcus faecium
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STRANDEDNESS: double
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Pred. No. 0.
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395

US-08-232-463-14

IMMEDIATE SOURCE:

TOPOLOGY: lir

linear

TELEFAX:

Matches 21; Query Match

RESULT 6 US-09-107-532A-1266

COUNTRY: USA

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ORGANISM: Corynebacterium glut
FEATURE:
NAME/KEY: gene
LOCATION: (101)...(853)
OTHER INFORMATION: brnF
NAME/KEY: gene
LOCATION: (853)...(1176)
OTHER INFORMATION: brnE
OTHER INFORMATION: brnE
OTHER INFORMATION: ATCC13032
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Local Similarity 100.0%; Fred. No. 2.9e-231;
es 753; Conservative 0; Mismatches 0;
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RESULT 4 US-09-489-039A-3016

COUNTRY: USA
COUNTRY: USA
ZIP: 2313-0299
COMPUTER REALABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Ve
SOFTWARE: Patentin Release #1.0, Ve
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/232,463
FLING DATE:
CLASSIFICATION DATA:
APPLICATION NUMBER: US/07/935,313
APPLICATION NUMBER: US/07/935,313

APPLICATION NUMBER:

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114 300.6

US/07/935,313

NUMBER OF SEQUENCES: 52
CORRESPONDENCE ADDRESS:
ADDRESSEE: Foley & Lardner
STREET: 1800 Diagonal Road,

Suite

STREET: 1800 Dia CITY: Alexandria STATE: VA

APPLICANT: DORNER, F.
APPLICANT: SCHEIFLINGER,
APPLICANT: FALKNER, F. G.
TITLE OF INVENTION: RECON

RECOMBINANT

FOWLPOX

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Sequence 3016, Application US/09489039A

Patent No. 6610836

GENERAL INFORMATION:
APPLICANT: GATY Breton et. al
APPLICANT: GATY DETECT ACID AND AMINO ACID SEQUENCES RELATING TO FITTLE OF INVENTION: PNEUMONIAE FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 2709.2004001
CURRENT APPLICATION NUMBER: US/09/489,039A
CURRENT PRILING DATE: 2000-01-27
PRIOR APPLICATION NUMBER: US 60/117,747
PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NO 3016
ENGET: 756
TVENT: 756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; TYPE: DNA
; ORGANISM: Klebsiella
US-09-489-039A-3016
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                                                RESULT 5
US-08-232-463-14
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                 Sequence 14, Application US/08232463 Patent No. 5670367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 52.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
Patent No. 5670367
GENERAL INFORMATION:
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                                                                                                                    CITCACTGC 310
                                                                                                                                                 TTTCATTCC
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Pred. No. 8.6e-09;
0; Mismatches 119;
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Sequence 1, Application US/09471803A

PRICENT NO. 6613545

PRICENT NO. 6613545

GENERAL INFORMATION:

APPLICANT: KENNERKNECHT, NICOLE

APPLICANT: SAHM, HERMANN

APPLICANT: SHAM, HERMANN

APPLICANT: PFEFFERLE, WALTER

TITLE OF INVENTION: NUCLECTIDE SEQUENCE CODING FOR THE EXPORT OF

TITLE OF INVENTION: BRANCHED CHAIN AMINO ACIDS, PROCESS FOR THE

TITLE OF INVENTION: ISOLATION THEREOF AND USE THEREOF

TITLE OF INVENTION NUMBER: US/09/471,803A

CURRENT APPLICATION NUMBER: US/09/471,803A

CURRENT FILING DATE: 1999-12-23

PRIOR APPLICATION NUMBER: DE 199 51 708.8

PRIOR FILING DATE: 1999-10-27

NUMBER: PSEQ ID NOS: 12

SOFTWARE: Patentin Ver. 2.1
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US-09-471-803A-1
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                                                                   NAME/KEY: gene
LOCATION: (853)..(1176)
OTHER INFORMATION: brnE
OTHER INFORMATION: ATCC14752
US-09-471-803A-1
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                                                                                                                                                                                                                                                           SOFTWARE: PatentIn
SEQ ID NO 1
LENGTH: 1271
Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 753; Conservative (
                                                                                                                                                      NAME/KEY: gene
LOCATION: (101)...(853)
OTHER INFORMATION: brnf
                                                                                                                                                                                                        TYPE: DNA
ORGANISM: Corynebacterium
FEATURE:
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     Score 753; DB 4; I
Pred. No. 2.9e-231;
; Mismatches 0;
                                      Length 1271;
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   Sequence 6, Application US/09471803A

Sequence 6, Application S/09471803A

Patent No. 6613545

GENERAL INFORMATION:
APPLICANT: SERUNERWECHT, NICOLE
APPLICANT: SAHM, HERMANN

APPLICANT: SAHM, HERMANN

APPLICANT: SAHM, HERMANN

APPLICANT: SAHM, HERMANN

APPLICANT: SAHM, HERMANN

APPLICANT: SAHM, HERMANN

APPLICANT: SOFINVENTION: NUCLEOTIDE SEQUENCE CODING FOR THE EXPORT OF INVENTION: SEQUENCE CODING FOR THE EXPORT OF INVENTION: ISOLATION THEREOF AND USE THEREOF TITLE OF INVENTION: ISOLATION THEREOF AND USE THEREOF FILE REFERENCE: 21123/265496/MAS

CURRENT APPLICATION NUMBER: US/09/471,803A

CURRENT APPLICATION NUMBER: DE 199 51 708.8

PRIOR APPLICATION NUMBER: DE 199 51 708.8

PRIOR APPLICATION NUMBER: DE 199 51 708.8

PRIOR APPLICATION NUMBER: DE 199 51 708.8

PRIOR APPLICATION NUMBER: DE 199 51 708.8

PRIOR APPLICATION NUMBER: DE 199 51 708.8

PRIOR APPLICATION SUMBER: DE 199 51 708.8
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US-09-471-803A-6
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ALIGNMENTS

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APPLICANT: EGGELING, LOTHAR
APPLICANT: EGGELING, LOTHAR
APPLICANT: PREFFERLE, WALTER
TITLE OF INVENTION: NUCLECTIDE SEQUENCE CODING FOR THE EXPORT OF
TITLE OF INVENTION: BRANCHED CHAIN AMINO ACIDS, PROCESS FOR THE
TITLE OF INVENTION: SOLATION THEREOF AND USE THEREOF
FILE REFERENCE: 21123/65496/MAS
CURRENT APPLICATION NUMBER: US/09/471,803A
CURRENT FILING DATE: 1999-12-23
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR FILING DATE: 1999-10-27
NUMBER OF SEQ ID NOS: 12
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 2
LENGTH: 753
TYPE: DNA
ORGANISM: Corynebacterium glutamicum
FFATURE:
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Best Local Similarity
Matches 753; Conserv
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APPLICANT: SAHM, HERMANN
APPLICANT: EGGELING, LOTHAR
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OTHER INFORMATION: brnF
OTHER INFORMATION: ATCC14752
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Matches 64
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 10732 BP; 3149 A; 1212 C; 2074 G; 2046 T; 0 U; 2251 Other;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gene encoding a cellulose synthetic equipment - for the improvement he amount of cellulose synthesized in a plant body.
9649 TISRCTBYSTBTBTTSRCAKCTBDSTSTAKNSTSTYSTTRCTBYSSRSRGYSYCSRSRSR 9590
                                                                                                                                                                                                                                                                              9769 GYDANSTSRYSSRYSSTYSSDSTYSAKYCAKSTTBTBCYYDAYDACYDAYDANCYSSDST 9710
                                                                                                                                                                                                                                                                                                                                                                                                                                 9829 SDSTSTYRCSRSDYDATBSDNSTNCCYDASRTBTBSTNCYARCYTBYDARCSRDSTYSSR 9770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9889 RGNCYYNSTNCYDASTSDTBYSRCCYTYSYSSTDSTDSTDSTNSTTBSDCYTTTTBSRST
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                                                             502 CTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAAATTAAGGGCCTCG-AGTTCGC 560
                                                                                                                                                                                                                                                                                                                                                       442 TCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCACTCCTACTGGGTATTCGGCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           382 TCGGTTTTCGCGCTTATCGACGAAGCCTACGCAGTCACTGCGGCCAGGCCAGGCTGG 441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 322 GTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAAAACCCCATTGCCCGTTTCTAT 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            262 GTGGGCGCAGCGCCCTGGGCGCCATCGCGCTCACCACATTGCTGGTGAACTTCCGCCAC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  h 5.5%; Score 41.2; DB 3; Length 10732;
Similarity 14.7%; Pred. No. 0.13;
54; Conservative 182; Mismatches 189; Indels 1;
                                                                                                                                           YTBYCSRRCCCYYDAYSCSRYDARCYDACYSYSNSTCYDATBTTSRYSTTYSYYSNCYDA
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Search completed: April 19, 2004, 11:42:08 Job time: 352.669 secs

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Best Local Similarity
Matches 85; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   amino acids, by fermenting the amino acid-producing coryneform in whice at least the lrp gene has been weakened or amplified, then isolating amino acids that have accumulated in the medium or cells. (I) is used transform coryneforms for production of L-amino acids, specifically lysine and isoleucine, which are used in medicine and particularly as animal feed supplement. It may also be used as probes and primers for isolating related sequences. Regulating expression of (I) improves production of amino acids, especially of L-lysine. This sequence encod the Corynebacterium glutamicum lrp protein which is used in the method described in the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               05-OCT-1999;
                                 Chang H, Ch
Katagiri F,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New 1rp gene from coryneform bacteria, used to prepare transformants with increased synthesis of amino acids, particularly lysine and isoleucine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This invention describes a novel isolated nucleic acid (I) from coryneform bacteria used for the fermentative production of selected
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 715
                                                                                                                                                                                                           Plant; bacterial infection; fungal infection; viral infection; rice;
                                                                                                                                                                                                                               Rice gene,
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               WPI; 2003-175290/17
                                                                                                           22-JUN-2001;
                                                                                                                                 03-JAN-2003
                                                                                      22-JUN-2001; 2001WO-IB001105
                                                                                                                                                      WO2003000898-A1
                                                                 (SYGN ) SYNGENTA PARTICIPATIONS
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                                                                                                                                                                                                                                                                                               standard;
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                                  Chen W, Co
F, Quan S,
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                                    Cooper
S, Tao
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Identifying at least one gene involved in plant resistance or response pathogenic infection for conferring resistance or tolerance to a plant bacterial, fungal or viral infection by determining or detecting plant
gene expression.
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Claim 27; IJ. ö 5263; 899pp; English

The present invention relates to a method (M1) for identifying genes involved in plant resistance or response to pathogenic infection. M1 comprises identifying a gene whose expression is significantly altered in the incompatible interaction of plant gene expression relative to expression of the gene in an uninfected plant, in a mutant plant that does not express a gene associated with response to pathogenic infection, or in a corresponding incompatible or compatible interaction. (M1) is useful for conferring resistance to resistance or tolerance to a plant to bacterial, fungal or viral infection. The present sequence was used to illustrate the invention.

Sequence 2000 BP; 336 A; 265 C; 284 G; 363 T; 0 U; 752 Other;

Query Match Best Local S Matches 75

Similarity

10.28;

Score 47; DB 7 Pred. No. 0.007 28; Mismatches

DB 7; .001; 323;

Length Indels

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Gaps

75;

Conservative 328;

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 309400 BP; 70133 A; 86477 C; 83115 G; 69675 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                              04-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                         ACA01968 standard;
                                                                         Corynebacterium
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Pred. No. 9.6
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Pred. No. 1.5e-22;
0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Corynebacterium glutamicum.
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                                                      TGCTGGTGAACTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAAA
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                        TCATGGTGAATTTCCGCCACATTTTCTACGGTCTCACCTTCCCACGCCACCGCATCAAGT
                                                                                                   TTCTGGCAATCGGCATGGTCACCGCAGGTATCGGCCGGTTTTCGGCGGCGGTCGCTGGTT
                                                                                                                                         TGCTGGTCATCGCCCTCGTTGTGGGCGCAGCGCCCCTGGGCGCCATCGCGCTCACCACAT
                                                                                                                                                                            GTTTCGCCTGGTGGACGCCGATTTTCTCCTTCGTGATCTATGCCGGTTCGATGGAAT
                                                                                                                                                                                                                  GCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGCCTGATTTTCGCGGGCTCCACCGAAA
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                                                                                                                                                                                                                                                                                                                                    Conservative
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Pred. No. 6.3
                                                                                                                                                                                                                                                                                                                                  Mismatches
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The present invention provides a number of nucleotide and protein sequences from the Coryneform bacterium Corynebacterium glutamicum. are useful for identifying the mutation point of a gene derived from mutant of coryneform bacterium, measuring expression amount and anal the expression profile or expression pattern of a gene derived from Coryneform bacterium, and identifying a homologue of a gene derived
                                                                                                                                                                      Novel polynucleotides derived from Coryneform bacteria, for identifying mutation point of a gene, measuring expression of a gene, analyzing expression profile or pattern of a gene and identifying homologous gene
                                                                                                                                                                                                                                                                                          Nakagawa S,
Tateishi N,
                                                                                                                                                                                                                                                                                                                                                                                    16-DEC-1999; 99JP-00377484.
07-APR-2000; 2000JP-00159162.
03-AUG-2000; 2000JP-00280988.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Coryneform bacterium; amino acid
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                                                                                                                                     Disclosure; SEQ ID NO 7069; 246pp + Sequence Listing; English.
                                                                                                                                                                                                                                                       WPI; 2001-376931/40.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               18-DEC-2000; 2000EP-00127688.
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                                                                                                                                                                                                                                                                                                                                                     (KYOW ) KYOWA HAKKO KOGYO KK.
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Sench A, Ik
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                                                                                                                                                                                                                                                                                        H, Ando S, Hayashi M,
Ikeda M, Ozaki A;
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Best Local Similarity 98.6
Matches 276; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 778 BP; 175 A; 208 C; 207 G; 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New lrp gene from coryneform increased synthesis of amino
                                                                                                               Coryneform bacterium; amino acid synthesis; vitamin; saccharide; organic acid synthesis; ds.
16-DEC-1999; 99JF-00377484
07-APR-2000; 2000JF-00159162
                                                                                                                                                                                                                  AAH68373 standard;
                                                                                              Corynebacterium
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                            18-DEC-2000; 2000EP-00127688
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       99JP-00377484
                                                                                              glutamicum
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03-AUG-2000; 2000JP-00280988 (KYOW) KYOWA HAKKO KOGYO Ķ

Nakagawa Tateishi z o Mizoguchi Senoh A, i H, Ando Ikeda M, S, Hayashi Ozaki A; Σ Ochiai ~ Ξ

Novel polynucleotides derived from Coryneform bacteria, for identifying mutation point of a gene, measuring expression of a gene, analyzing expression profile or pattern of a gene and identifying homologous gene gene.

8; SEQ ID NO 3408; 246pp + Sequence Listing; English.

The present invention provides a number of nucleotide and protein sequences from the Coryneform bacterium Corynebacterium glutamicum. These are useful for identifying the mutation point of a gene derived from a mutant of coryneform bacterium, measuring expression amount and analysing the expression profile or expression pattern of a gene derived from coryneform bacterium, and identifying a homologue of a gene derived from coryneform bacterium. Coryneform bacteria are useful for producing amino acids, nucleic acids, vitamins, saccharides and organic acids, particularly 1-lysine. The present sequence is a nucleic acid described in the exemplification of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from the European Patent Office

Sequence 711 BP; 123 A; 190 C; 198 G; 200 T; 0 U; 0 Other;

Length

711;

Query Match Best Local Similarity Matches 318; Conserv 182 122 353 422 293 362 233 302 173 242 473 539 413 479 53 GCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGGCCTGATTTTCGCGGGCTCCACCGAAA CGGTCGGTTTGGGGGCTGATTCCGCTGGGTTTGGCCTTTTGGGCTGTTGATGGTCCAGACAG CTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATACG céggégecégeéégecénairiecacenaégééérnacégaégagréenaégearégege TGCTGGTCATCGCCCTCGTTGTGGGCGCAGCGCCCCTGGGCGCCATCGCGCTCACCACAT GTTTCGCCTGGTGGACGCCGATTTTCTCCTTCGTGATCTATGCCGGTTCGATGGAAT CGGCCAGGCCCGCAGGCTGGTCGGCCGTG----GCGACTTATCTCAATGCAAATAGCGTTTC ACCCCATTGCCCGTTTCCTATTCGGTTTTCGCGCTTATCGACGAAGCCTACGCAGTCACTG TCATGGTGAATTTCCGCCACATTTTCTACGGTCTCACCTTCCCACGCCACCGCATCAAGT TGCTGGTGAACTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAAA AAATTAAGGGCCTCGAGTTCGCCCTTTGCTCTCTTTTGTCACGCTGACTTTGGATTCCT ACTCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGAGAGGTGATTCCTTTTG ĊĄĠĊĊĊĠĊĊĄĊĊŢĠĠĊĠĄŢĄŢĊĄĠŢĠĠĊĄĊĠĠĠŢĠĊŢŢĄĊĊĠŤŢĊĄĄĄŤŢŢŢĠŢĠĊĊ Conservative 16.9%; Score 127.4; DB 5; Pred. No. 6.3e-29; 0; Mismatches 296; Indels ω --Gaps 241 598 472 538 412 478 352 421 292 361 232 301 172 112 532

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TTGTGGTAATTCCAGGTCAGGCCCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGTTGA

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medicine; animal feed
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Pred. No. 2.7e-161;
0; Mismatches 0;
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Best Local S
Matches 276
                                                                                                                                                                                                                                                                                                                                                                                                                This invention describes a novel isolated nucleic acid (I) from coryneform bacteria used for the fermentative production of selected L-amino acids, by fermenting the amino acid-producing coryneform in which at least the lry gene has been weakened or amplified, then isolating amino acids that have accumulated in the medium or cells. (I) is used to transform coryneforms for production of L-amino acids, specifically lysine and isolaucine, which are used in medicine and particularly as animal feed supplement. It may also be used as probes and primers for isolating related sequences. Regulating expression of (I) improves production of amino acids, especially of L-lysine. This sequence encodes a fragment of the Corynebacterium glutamicum lrp protein which is used in the method described in the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 3; Page 16; 22pp; German
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New lrp gene from coryneform increased synthesis of amino
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Local 5
276;
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                                                                                                                                                                                                          GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAAGGTCTAAAAAACCTCCCTT
                                                                                                                                                                                                                                                GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAAGGTGTCGCCATCCAAGGCAGCCCTG
ATGCTGGTCATCGCCCTCGTTGTGGGCGCAGCGCCCCTGG
                                                                           GGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGGCCTGATTTTCGCGGGCCTCCACCGAA
                                                                                                            GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC
                                                                                                                                 GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC
                                                                                                                                                                               GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAAACCTCCCTT
                                           GGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGCCTGATTTTCGCGGGCTCCACCGAA
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Pred. No. 1.7e
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           bacteria, used to prepare transformants with acids, particularly lysine and isoleucine.
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RESULT 8
AAF61695/c
ID AAF616
Fermentation; L-amino medicine; animal feed
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                                                                                                                                 AAF61695;
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                                         11-APR-2001.
                                                                   Corynebacterium
                           29-SEP-2000;
(DEGS ) DEGUSSA-HUELS
                                                                                                      glutamicum
                                                                                                                                               standard; DNA;
                           2000EP-00121159
                                                                                                                   (first entry)
                                                                                                     lrp encoding DNA fragment SEQ
             99DE-01047792
                                                                   glutamicum
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                                                                                       gene; lysine;
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Best Local Simi
Matches 753;
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07-APR-2000;
03-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           sequences from the Coryneform bacterium Corynebacterium glutamicum. These are useful for identifying the mutation point of a gene derived from a mutant of coryneform bacterium, measuring expression amount and analysing the expression profile or expression pattern of a gene derived from Coryneform bacterium, and identifying a homologue of a gene derived from coryneform bacterium. Coryneform bacteria are useful for producing amino acids, nucleic acids, vitamins, saccharides and organic acids, particularly L-lysine. The present sequence is a nucleic acid described in the exemplification of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from the European Patent Office
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nakagawa
Tateishi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Novel polynucleotides derived from Coryneform bacteria, for identifying mutation point of a gene, measuring expression of a gene, analyzing expression profile or pattern of a gene and identifying homologous gene
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                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 349980 BP; 79703 A; 91547 C; 98381 G; 80349 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present invention provides a number of nucleotide and protein
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                                                                                                                                                                                  276949
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acid synthesi
                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                  GTGCAAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ ID NO 1; 246pp + Sequence Listing; English.
                                                                                                                                                                                                      GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC
                                                                                                                                                                                                                                                                                                           GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG
                TTGCTGGTGAACTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAA
                                                                                                                                                   GGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGGCCTGATTTTCGCGGGGCTCCACCGAA
                                                                                                                                                                                 GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC
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                                                                                                                                                                                                                                                                        GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAAACCTCCCTT
TTGCTGGTGAACTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAA
                                                           ATGCTGGTCATCGCCCTCGTTGTGGGCGCGCAGCGCCCTGGGCGCCATCGCGCTCACCACA
                                                                                         ATGCTGGTCATCGCCTCGTTGTGGGGCGCAGCGCCCTGGGCGCCATCGCGCTCACCACA
                                                                                                                       GGCTACGAATGGTGGGCAGCCCACTGTTTTCCGGCCTGATTTTCGCGGGCTCCACCGAA
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2000JP-00159162.
2000JP-00280988.
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Senoh A, Ikeda M, Ozaki A;
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Pred. No. 3.1e-222;
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This invention describes a novel nucleic acid array involving Corynebacterium glutamicum polynucleotides. The arrays are used to corynebacterium glutamicum polynucleotides. The arrays are used to analyse C. glutamicum, particularly for monitoring a fermentation process to determine expression levels of C. glutamicum cellular mRNA. Such monitoring particularly differentiates between expression levels of different strains of C. glutamicum and allows the adjustment of different culture and fermentation conditions. ACA00010-ACA02188 represent C. glutamicum derived polynucleotides described in the disclosure of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Coryneform;
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                                                                                                                                                              Claim 1; Page 647; 709pp; German.
                                                                                                                                                                                                             New nucleic acid array useful for Corynebacterium glutamicum during
                                                                                                                                                                                                                                                                                                                                                           13-JUN-2001; 2001DE-01028510
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Corynebacterium
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                                                                                                                                                                                             Corynebacterium glutamicum.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        standard;
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                                                                                                                                                                                                              monitoring mRNA expression of fermentation, comprising nucleic
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This invention describes a novel isolated polynucleotide (I) containing at least one sequence that (i) is 70% identical with a sequence that concludes a polypeptide at least one of 251 amino acid (aa) (3) or 108 aa (5) colypeptides; (ii) encodes a polypeptide at least 70% identical with (3) cores. (iii) is the complement of (i) or (ii), or (iv) contains at least 15 consecutive bases from (i)-(iii). The invention also describes (a) coryneform microorganisms, especially Corynebacterium, transformed with concern microorganisms, especially Corynebacterium, transformed with cone or more (I), where these are replicative DNA; (c) production of branched-chain L-aa by fermentation of coryneform bacteria in which the complete and/or brnf genes (or equivalent sequences) are amplified, composited the brnf and/or brnf genes (or requivalent sequences) are amplified, composited the brnf genes. (I) is used for transformation of coryneform bacteria being cused for fermentative production of branched-chain amino acids,
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Matches 753
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CT This invention describes a novel isolated polynucleotide (I) containing CC at least one sequence that (i) is 70% identical with a sequence that CC encodes at least one of 251 amino acid (aa) (3) or 108 aa (5) CC polypeptides; (ii) encodes a polypeptide at least 70% identical with (3) CC or (5); (iii) is the complement of (i) or (ii), or (iv) contains at least CC 15 consecutive bases from (i) - (iii). The invention also describes (a) CC protein derived from sequences of 753 bp (2) or 324 bp (4); (b) CC coryneform microorganisms, especially Corynebacterium, transformed with CC coryneform microorganisms, especially Corynebacterium, transformed with CC coryneform by fermentation of coryneform bacteria in which the CC transfed-chain L-aa by fermentation of coryneform bacteria in which the CC parached-chain L-aa by fermentation of coryneform bacteria in which the CC transfed-chain by reproduction of branched-chain that the production of coryneform bacteria being CC used for fermentative production of branched-chain amino acids, corynebacterically leucine, isoleucine and valine, which are useful in medicine corynebacterically pleucine, isoleucine and valine, which are useful in medicine corynebase of isolation of related sequences. Transformation with (I) corynebacterium glutamicum arCC 14752 brnF and brnE proteins described in the method of the invention
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101 GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG 61 GAACCAGATGATAAAGGTTATCGGGGCTACGAAATCGGGCAAGGTCTAAAAAACCTCCCTT GTGCAAAAAACGCAAGAGATTCATTCAAGGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAAACCTCCCTT 100.0%; Score 753; DB 4; I larity 100.0%; Pred. No. 2.5e-223; Conservative 0; Mismatches 0; TTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC Indels ٥, 220 120 160 280 180 60

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07-APR-2000;
03-AUG-2000;
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Tateishi
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                                                                                                                                                                                                                                                                                         Sequence
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DB; AAG90035.
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                     GGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGGCCTGATTTTCGCGGGGCTCCACCGAA
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9122.247 Million cell updat
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Aca42205 Prokaryot	ACA42205	7	1230	٠	36.8	24	

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RESULT 1
AAH21110
C. glutamicum brnF DNA.
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                                                                                           New export genes from fermentative production
                                                                                                                                                                                                                                                                       L-amino acid production; brnF; coryneform bacterium; leucine;
                                                                                                                                                                                                                                                                                                                               AAH21110;
                                                                            Claim 5; Page 14-15; 23pp;
                                                                                                                    WPI; 2001-391595/42.
P-PSDB; AAB86247.
                                                                                                                                          Kennerknecht N, Eggeling
                                                                                                                                                                                  27-OCT-1999;
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                                                                                            coryneform bacteria, useful for increasing on of branched-chain amino acids.
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                                                                             German.
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This invention describes a novel isolated polynucleotide (I) containing at least one sequence that (i) is 70% identical with a sequence that encodes at least one of 251 amino acid (aa) (3) or 10% aa (5) polypeptides; (ii) encodes a polypeptide at least 70% identical with (3) or (5); (iii) is the complement of (i) or (ii), or (iv) contains at least 15 consecutive bases from (i)-(iii). The invention also describes (a) protein derived from sequences of 753 bp (2) or 324 bp (4); (b) coryneform microorganisms, especially Corynebacterium, transformed with one or more (I), where these are replicative DNA; (c) production of

least

Qy 241 ATGCTGGTCATCGCCCTCGTTGTGGGCGCAGCGCCCCTGG 280	Qy 121 GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC	Qy 1 GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATGCAAGGCAGCCCTG	Query Match 36.3%; Score 273.6; DB 6; Length 39 Best Local Similarity 98.6%; Pred. No. 3.8e-60; Matches 276; Conservative 0; Mismatches 4; Indels	Qy 721 ATCCGGTACTTCTCTTGGGAAAGGCTGCTAAA 753 Db 277549 ATCCGGTACTTCTTCTTTGGGAAAGGCTGCTAAA 753 Db 277549 ATCCGGTACTTCTTCTTTGGGAAAGGCTGCTAAA 753 Db 277549 ATCCGGTACTTCTTCTTTGGGAAAGGCTGCTAAA 277581 RESULT 15 AX137083
	GCGTITGGTCTCTTGGTTATTCAATAC 180	GAGGTGTCGCCATCCAAGGCAGCCCTG 60	DB 6; e-60; 4;	CTGCTGATCTTCTTGGGTCTGTTGACC 277548 753 277581 DNA linear PAT 30-MAY-2001 teridae; Actinomycetales; ae; Corynebacterium, Kalinowski, J. and Bathe, B. lrp gene glutamicum"

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Query Match
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AATKIDSDIVAKGSRRLLEBIADSLDGLWQEYQNGGTAADFGAHLEANSSTALDAILS
VADKNAESINVPGLGKYYKGYBGKAAKVIEQELPAIGQLIEKNAQ"
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/protein_id="BAB97403.1"
/db_xref="GI:21322774"
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Novel polymuclectides
Patent: EP 1108790-A 1 20-JUN-2001;
KYOWA HAKKO KOGYO CO., LTD. (JP)
LCCALTION (CO.)
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Sequence 1 from Patent EP1108790.
AX120085 AX114121
AX120085.1 GI:14036800
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Corynebacterium glutamicum
Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
Corynebacterineae; Corynebacteriaceae; Corynebacterium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTGCAAAAAAACGCCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG
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Mismatches 0;
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PF02768:DNA polymerase III beta subunit, C-terminal doma
TIGR00663:dnan: DNA polymerase III, beta subunit"
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TIGR01058:parE_Gpos: DNA topoisomerase IV, B
TIGR01059:gyrE: DNA gyrase, B subunit"
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/pF00986:DNA gyrase B subunit, carboxyl terminus
PF01751:Toprim domain
PF02518:Histidine kinase-, DNA gyrase B-, phytochrome-1
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Co. I
                                                                                                                                                                                                                                                                                                                                                                                    Submitted (24-MAY-2002) Satoshi Nakagawa, Kyowa Hakko I
Ltd., Tokyo Research Labbratories; 3-6-6, Asahi-machi,
Tokyo 194-8533, Japan (E-mail:snakagawa@xanagen.com,
Tel:81-44-829-3031, Fax:81-44-813-1651)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Complete genomic sequence of Corynebacterium Unpublished
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Corynebacterium glutamicum ATCC 13032
Bacteria, Actinobacteria, Actinobacteridae, Actinomycetales,
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Corynebacterium glutamicum ATCC 13032 DNA,
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Direct Submission
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Best Local Similarity 100.0%;
Matches 753; Conservative 0
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OS Corynebacterium glutamicum ATCC13032
PN P2 2001169788-A/4
PD 26-JUN-2001
PF 24-OCT-2900 DF 2000324315
PR 27-OCT-1999 DE 19951708.8
PI NICOLE KENNERUKUNEHITO, HERMANN SAHM, LOTHAR EGGERING, WALTER PI PFEFFERLE
PC (C12N15/09, C07K14/34, C12N1/21, C12R13/06, C12R13/06, C12R13/06, C12R13/06, C12N15/09, C12R1:15), (C12N1/21, C12R1:15), (C12N15/00, C12R1:15)
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PN JP 2001169788-A/4
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Nucleotide sequence encoding method of isolating the same
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   GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTTCGTTATTCAATAC
                                  GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAACCTCCCTT
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                                                                                                                                                                                                                                           /organism="unidentified"
/mol_type="genomic DNA"
/db_xref="taxon:32644"
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Pred. No. le-184;
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                                                                   2 (bases 1 to 2105)

Kennerknecht, N., Eggeling, L. and Sahm, H.

Direct Submission

Submitted (07-NOV-2001) IBT-1, Forschung

Juelich 52425, Germany
                                                                                                                                                                          Eggeling,L.

Export of L-isoleucine from Corynebacterium glutamicum:
two-gene-encoded member of a new translocator family
J. Bacteriol. 184 (14), 3947-3956 (2002)
                                                                                                                                                                                                                                                Corynebacterium glutamicum
Corynebacterium glutamicum
Bacteria, Actinobacteria, Actinobacteria;
Corynebacterineae; Corynebacteriaceae; Corynebacterium.
1 (bases 1 to 2105)
Kennerknecht, N., Sahm, H., Yen, M.R., Patek, M., Saier Jr, M.H.
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                                      Location/Qualifiers
1. .2105
     /organism="Corynebacterium glutamicum"
/mol_type="genomic DNA"
                                                                                        Forschungszentrum,
                                                                                          Leo-Brandt
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and Lrp-like
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Nucleotide sequence encoding
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                                                                                                      GCGGCCAGGCCGCAGGCTGGTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCAC
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(note="unnamed protein product; brnE" / rote="unnamed protein product; brnE" / rotein_tart=1
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bp DNA linear PAT 27-AUG-2002 the discharge of branched amino acid,
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(CS I (bases I to 1271)

(CS I (bases I to 1271)

Nucleotide sequence encoding the discharge of branched amino acid, method of isolating the same and utilization thereof

AL Patent: JP 2001169788-A 1 26-JUN-2001;

DEGUSSA HUELS AG, FORSCHUNGSZENTRUM JUELICH GMBH

OS COTYNEBACTETIUM GIUTAMICUM ATCC14752

PN JP 2001169788-A 1

PD 26-JUN-2001

PP 24-OCT-2000 JP 2000324315

PR 27-OCT-1999 DE 19951708.8

PI NICOLE KENNERUKUNEHITO, HERMANN SAHM, LOTHAR EGGERING, WALTER PI

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PC (C12N15/09, C12R1:15), (C12N1/21, C12P13/06, C12P13/06, C12P13/06, C12N15/00, C12R1:15)

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                    GCGGCCAGGCCGCAGGCTGGTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCAC
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/organism="unidentified"
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Degussa AG (DE) , FORSCHUNGSZENIRUM JUELICH GMBH (DE)
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                                 GGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGCCTGATTTTCGCGGGCTCCACCGAA
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GLVNLF"
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Pred. No. 1e-184;
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AX137714
AX137714.1
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Corynebacterium glutamicum
Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
                                                                                                                                                                                                                                                                                                                                                                                                                Kennerknecht, N., Eggeling, L., Sahm, H. and Pfefferle, W
Nucleotide sequences coding for branched-chain amino
proteins, method for isolating them and their use
Patent: EP 1096010-A 6 02-MAY-2001;
Degussa AG (DE); FORSCHUNGSZENTRUM JUELICH GMBH (DE)
Location/Qualifiers
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AR391953
AR391953.1
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Kennerknecht, N., Sahm, H., Eggeling, L. and Pfefferle, W. Rucleotide sequences coding for the export of branched chain acids, process for the isolation thereof and use thereof Patent: US 6613545-A 1 02-SEP-2003;

Location/Qualifiers
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             ATCCGGTACTTCTTCTTGGGAAAGGCTGCTAAA 753
                                                        GTGGTAATTCCAGGTCAGGCCCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGTTGACC
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Sequence 6
AR391956
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Similarity 100.0%; Pred. No. 1e-184;
53; Conservative 0; Mismatches 0;
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Unknown.

(SM Unknown.

(CE 1 (bases i to 1271)

DRS Kennerknecht,N., Sahm,H., Eggeling,L. and Pfefferle,W.

Nucleotide sequences coding for the export of branched chain acids, process for the isolation thereof and use thereof Patent: US 6613545-A 6 02-SEP-2003;

TRES Location/Qualifiers

1.1271

("Tranism="unknown""" DNA""
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GGCTACGAATGGTGGGCACACCGACTGTTTTCCGGGCCTGATTTTCGCGGGCTCCACCGAA GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAAACCTCCCTT GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG GTGGTAATTCCAGGTCAGGCCCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGTTGACC CGAACGAAAAAGCAGATCCCTTCTCTGCTGCTGCTCGCAGGTTTGAGCTTTCACCATTGCTCTT ATTAAGGGCCTCGAGTTCGCCCCTTTGCTCTCTTTGTCACGCTGACTTTGGATTCCTGC TCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAA TCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAA GCGGCCAGGCCGCGTCGCCGTCGCCACTTATCTCAAATGCAAATAGCGTTTCAC GCGGCCAGGCCGCAGGCTGGTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCAC AACCCCATTGCCCGTTTCTATTCGGTTTTTCGCGCTTATCGACGAAGCCTACGCAGTCACT TIGCIGGIGAACTICCGCCACGIATICTAIGCGITITCATICCGCIGCAIGIGGICAAA ATGCTGGTCATCGCCCTCGTTGTGGGCCCAGCGCCCCTGGGCCCATCGCGCTCACCACA ATGCTGGTCATCGCCCTCGTTGTGGGCGCGCAGCGCCCTGGGGCGCCATCGCGCTCACCACCA GGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGCCTGATTTTCGCGGGCTCCACCGAA GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAACCTCCCTT GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG CGAACGAAAAAGCAGATCCCTTCTCTGCTGCTCGCAGGTTTGAGCTTCACCATTGCTCTT ATTAAGGGCCTCGAGTTCGCCCTTTGCTCTCTTTGTCACGCTGACTTTGGATTCCTGC AACCCCATTGCCCGTTTCTATTCGGTTTTTCGCGCGTTATCGACGAAGCCTACGCAGTCACT TTGCTGGTGAACTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAA 0 Indels 0 Gaps 760 660 700 600 640 580 480 520 420 460 360 400 300 340 280 180 220 120 160 60 720

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AL PATENT JP 2002191370-A 289 09-JUL-2002;

KYOWA HAKKO KOGYO CO LTD

SCOTYNEBACTETIUM Glutamicum
PN JP 2002191370-A/289

PD 09-JUL-2002

PT 15-DEC-2000 JP 2000405096
PI SATOSHI MAKAANA,HIROSHI MIZOGUCHI,SEIKO ANDO,MIKIO HAYASHI,
PI KEIKO OCHIAI
PI HARUHIKO YOKOI,NAOKO TATEISHI,AKIHIRO SENCO,MASATO IKEDA,AKIO
PI OZAKI
PC C12N1/15,
PC C12N1/19,C12N1/21,C12N5/10,C12N9/00,C12N9/02,C12P7/40,C12P13/
PC C12N1/19,C12N1/21,C12N5/10,C12N9/03,C12P13/68,G01N33/566,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/56,G01N33/5
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Novel polynucleotide.
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Nakagawa, S., Mizoguchi, H., Ando, S., Hayashi, M., Ochi Yokoi, H., Tateishi, N., Senoo, A., Ikeda, M. and Ozaki, Novel polynuclectide
Patent: UP 2002191370-A 289 09-JUL-2002;
KYOWA HAKKO KOGYO CO LTD
OS COrynebacterium glutamicum
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Similarity 100.0%; Pred. No. 9.8e-185;
53; Conservative 0; Mismatches 0;
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/mol_type="genomic DNA"
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Degussa AG (DE) FORSCHUNGSZENTRUM JUELICH GMBH (DE)
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Corynabacterium glutamicum
Bacteria, Actinobacteria; Actinobacteridae; Actinomycetales;
Corynabacterineae; Corynabacteriaceae; Corynabacterium.
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TCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAA
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/db_xref="taxon:1718"
/note="ATCC14752"
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LDEGUSSA HUELS AG, FORSCHUNGSZENTRUM JUELICH GMBH
OS Corynebacterium glutamicum ATCC14752
PN JP 2001169788-A/2
PN JP 2001169788-A/2
PN 26-JUN-2001
PF 24-OCT-2000 JP 2000324315
PR 27-OCT-1999 DE 19951708.8
PN NICOLE KENNERUKUNEHITO, HERMANN SAHM, LOTHAR EGGERING, WALT.
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                                   GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC
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Location/Qualifiers
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/mol_type="genomic DNA"
/db_xref="taxon:32644"
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/mol_type="genomic
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Patent: BP 1108790-A 289 20-JUN-2001;
KYOWA HAKKO KOGYO CO., LTD. (JP)
Location/Qualifiers
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Yokoi,H., Tateishi,N., Senoh,A., Ikeda,M. and Ozaki,
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/mol_type="unassigned DNA"
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SUMMARIES

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ALIGNMENTS

JOURNAL	TITLE	AUTHORS	REFERENCE		ORGANISM	SOURCE	KEYWORDS	VERSION	ACCESSION	DEFINITION	LOCUS	AR391954	RESULT 1
acids, process for the isolation thereof and use thereof Patent: US 6613545-A 2 02-SEP-2003;	Nucleotide sequences coding for the export of branched chain amino	Kennerknecht, N., Sahm, H., Eggeling, L. and Pfefferle, W.	1 (bases 1 to 753)	Unclassified.	Unknown.	Unknown.		AR391954.1 GI:40115725	AR391954	Sequence 2 from patent US 6613545.	AR391954 753 bp DNA linear PAT 18-DEC-2003		

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kudrna,D., Dean,R., Soderlund,C., Wing,R. and Wang,G.
Large-scale identification of ESTs involved in the interaction between rice and Magnaporthe grisea
Unpublished (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OSUNEC13F02.f OSUNEC Oryza sativa (japonica cultivar-group) cDNA clone OSUNEC13F02 5', mRNA sequence. CB657749 CB657749.1 GI:29661474
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Oryza sativa (japonica cultivar-group)
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
Ehrhartoideae; Oryzeae; Oryza.
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plate: 13 row: F column: 02
Seq primer: gta aaa cga cgg cca gtg.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                          Tel: 520 626 3967
Fax: 520 621 9288
Email: http://genome.arizona.edu
PCR PRimers
FORWARD: 9ta aaa cga cgg cca gtg
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Arizona Genomics Institute
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    University of Arizona
Biological Sciences West, 448A,
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                                                                        /organism="Oryza sativa (japonica cultivar-group)"

(mol type="maRNA"

/cultivar="Nipponbare"
/db xref="taxon:39947"
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/tissue_type="Tasf"
/dev_stage="3 week"
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/note="Vector: pBluescript II KS +; Site_1: EcoRI; Site_2:
KhoI; 6 hrs after innoculation with Rice Blast (C9240-1)"
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Search completed: April 17, 2004, 20:01:48 Job time : 4116.78 secs

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REFERENCE
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                                                                  Submitted (02-JUN-1999) Genoscope - Centre National de Sequencage :
BP 191 91006 EVRY cedex - FRANCE (E-mail : seqref@genoscope.cns.fr)
- Web : www.genoscope.cns.fr)
Determination of this BAC-end sequence was carried out as part of a collaboration with the Berkeley Drosophila Genome Project (BDGP).
The BDGP is constructing a physical map of the Drosophila melanogaster genome using these BACs. For further information please see http://www.fruitfly.org The BDGP Drosophila melanogaster BAC library was prepared by Kazutoyo Osoegawa and Aaron Mammoser in Pieter de Jong's laboratory in the Department of Cancer Genetics at the Roswell Park Cancer Institute in Buffalo, NY. The library is named RPCI-98 and was constructed by partial ECORI digestion of Drosophila DNA provided by the BDGP from the isogenic strain y2; cn bw sp, the same strain used for the BDGP's Pl and EST libraries. A more detailed description of the library and how to order individual BAC clones, the entire library or filters for hybridization from the BACPAC Resource Center can be found at http://bacpac.med.buffalo.edu/drosophila_bac.htm.
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Plate: LLAM9410 row:
High quality sequence
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Drosophila melanogaster
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Eukaryota, Metazoa, Arthropoda, Hexapoda, Insecta, Pterygota,
Neoptera, Endopterygota, Diptera, Brachycera, Muscomorpha,
Ephydroidea, Drosophilidae, Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CNS0091P 925 bp DNA linear GSS 03-JUN-1999 Drosophila melanogaster genome survey sequence TET3 end of BAC # BACR19D16 of RFC1-98 library from Drosophila melanogaster (fruit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GSS.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              fly), genomic survey sequence.
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/tissue type="glioblastoma with EGFR amplification"
/lab_host="DH10B (T1 phage-resistant)"
/clone_lib="NCI_CGAP_Brn64"
/note="Organ: brain; Vector: pCMV-SPORT6; Site_1: N/
Site_2: Sal1; Cloned unidirectionally. Primer: Olig/
Average insert size 1.57 kb. Constructed by Life
Technologies. Note: this is a NCI_CGAP Library."
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/db_xref="taxon:9606"
/organism="Drosophila melanogaster"
                                                 Location/Qualifiers
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Pred. No. 1
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                                                                                                                                                                                                                                                                                                    Email: segref@genoscope.cns.fr, Web: www.genoscope.cns.fr
Library was constructed by Life Technologies, a division of
Invitrogen. Contact: Feng Liang Email: fliang@lifetech.com |
http://fulllength.invitrogen.com/ InVitro
                                                                                                                                                                                                                                                                                                                                                                                           Contact: Genoscope
Genoscope - Centre National de Sequencage
BP 191 91006 EVRY cedex - France
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 1201)

Li, W.B., Gruber, C., Jessee, J. and Polayes, D.

Full-length cDNA libraries and normalization

Unpublished (2001)
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EST.
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                                                                                                                                                                                                                                                          Faraday Avenue Genoscope sequence ID : CSODIO79DG08NP1. Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens (human)
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/db_xref="taxon:7227"
/clone="makCR19D16"
/clone lib="RPCI-98"
/note="end: TET3"
                /tissue type="PLACENTA COT 25-NORMALIZED" /clone_Tib="Homo sapiens PLACENTA COT 25-NORMALIZED" /clone_Tib="Homo sapiens PLACENTA COT 25-NORMALIZED" /note="Tist strand cDNA was primer with a NotI-oligo (dT) primer. Five prime end enriched, double-strand cDNA was digested with Not I and cloned into the Not I and EcoR v sites of the pCMVSPORT 6 vector. Library was normalized.
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                                                                                                                                                 /mol_type="mRNA"
/db_xref="taxon:9606"
/clone="CS0DI079YN16"
                                                                                                                                                                                                                     organism="Homo sapiens"
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Pred. No.
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Best Local Matches Query Match

3.0%; Score 38.6; 1 Similarity 10.5%; Pred. No. 22; 34; Conservative 147; Mismatches

DB 13;

Length 1201; Indels

142;

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Gaps

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FEATURES
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CNS005NG/c
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Best Local S
Matches 7
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Library was constructed by Life Technologies, a division of
Invitrogen. Contact: Feng Liang Email: fliang@lifetech.com URL
http://fulllength.invitrogen.com/ InVitroGen Corporation 1600
Faraday Avenue Genoscope sequence ID: CLOBB022ZA07FP1.
Location/Qualifiers
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BP 191 91006 EVRY cedex - France
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                                                                                                                                                                CNS005NG 995 bp DNA linear GSS 03-JUN-1999 Drosophila melanogaster genome survey sequence TET3 end of BAC # BACK12604 of RPCI-98 library from Drosophila melanogaster (fruit
Drosophila melanogaster (fruit fly)
Drosophila melanogaster
Drosophila melanogaster
Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
                                                                                   fly), genomic survey s
AL060428
AL060428.1 GI:4943359
GSS.
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                                                                                                                                                  genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Itissue type="NEUROBLASIONA"
/clone Tib="Homo sapiens NEUROBLASIONA"
/clone Tib="Homo sapiens NEUROBLASIONA"
/note="Vector: pcMySpORT 6; lst strand cDNA was primed
with a NotI-oligo(dT) primer. Five prime end enriched,
double-strand cDNA was digested with Not I and cloned
the Not I and ECORV sites of the pCMVSPORT 6 vector.
Library was not normalized."
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/mol_type="mRNA"
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Pred. No. 11;
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                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
(Nases 1 to 859)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC) Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: David N. Louis, M.D.
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                         CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The The Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can
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/clone_lib="RPCI-98"
/note="end : TET3"
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Determination of this BAC-end sequence was carried out as part of a collaboration with the Berkeley Drosophila Genome Project (BDGP). The BDGP is constructing a physical map of the Drosophila melanogaster genome using these BACs. For further information please see http://www.fruitfly.org The BDGP Drosophila melanogaster BAC library was prepared by Kazutoyo Osoegawa and Maron Mammoser in Pieter de Jong's laboratory in the Department of Cancer Genetics at the Roswell Park Cancer Institute in Buffalo, NY. The library is named RPCI-98 and was constructed by partial EcoRI digestion of Drosophila DNA provided by the BDGP from the isogenic strain y2; cn bw sp, the same strain used for the BDGP's p1 and EST libraries. A more detailed description of the library and how to order individual BAC clones, the entire library, or filters for hybridization from the BACPAC Resource Center can be found at http://bacpac.med.buffalo.edu/drosophila_bac.htm.
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BP 191 91006 EVRY cedex - FRANCE (E-mail : seqref@genoscope.cns.fr
                                                                                                                                                                                                                                                                                                                                                                                   organism="Drosophila melanogaster"/
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                                 Score 39.4;
Pred. No. 12;
Mismatches
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Best Local Similarity 62.9%;
Matches 61; Conservative
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1 (bases 1 to 756)

Boardman, P.E., Sanz-Ezquerro, J., Overton, I.M., Burt, D.W., Bosch, E., Fong, W.T., Tickle, C., Brown, W.R.A., Wilson, S.A. and Hubbard, S.J. A Comprehensive Collection of Chicken cDNAs Curr. Biol. 12 (22), 1965-1969 (2002)
CNS009WA 787 bp
Drosophila melanogaster genome su
BACR20K04 of RPCI-98 library from
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Department of Biomolecular Sciences
University of Manchester Institute
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/mol_type="mRNA"
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Pred. No. 11;
0; Mismatches
      p DNA linear GSS 03-JUN-1999
survey sequence T7 end of BAC #
rom Drosophila melanogaster (fruit
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted (02-JUN-1999) Genoscope - Centre National de Sequencage : Bubmitted (02-JUN-1999) Genoscope - Centre National de Sequencage : BP 191 91006 EVRY cedex - FRANCE (E-mail : seqref@genoscope.cns.fr - Web : www.genoscope.cns.fr)

- Web : www.genoscope.cns.fr)

- Determination of this BAC-end sequence was carried out as part of a collaboration with the Berkeley Drosophila Genome Project (BDGP). The BDGP is constructing a physical map of the Drosophila melanogaster genome using these BACs. For further information please see http://www.fruitfly.org The BDGP Drosophila melanogaster BAC library was prepared by Kazutoyo Osoegawa and Maron Mammoser in Pieter de Jong's laboratory in the Department of Cancer Genetics at the Roswell Park Cancer Institute in Buffalo, NY. The library is named RPCI-98 and was constructed by partial EcoRI digestion of Drosophila DNA provided by the BDGP from the isogenic strain y2; cn bw sp, the same strain used for the BDGP's pl and EST libraries. A more detailed description of the library and how to order individual BAC clones, the entire library, or filters for hybridization from the BACPAC Resource Center can be found at http://bacpac.med.buffalo.edu/drosophila_bac.htm.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     712 GCAGATCCCTTCTCTGCTGCTCGCAGGTTTGAGCTTCACCATTGCTCTTGTGGTAATTCC 771
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                                                                                                                                                                                                                                                                                                                    885 bp mRNA linear EST 15-1
EX425603 Homo sapiens NEUROBLASTOMA Homo sapiens cDNA clone
CLOBB022ZA07 3-PRIME, mRNA sequence.
EX425603
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Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila
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AL054013
AL054013.1 GI:4935590
GSS.
Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 885)
1 (bases 1 to 885)
1 (Jesse, J. and Polayes, D.
Full-length cDNa libraries and normalization
Unpublished (2001)
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/mol_type="genomic_DNA"
/db_xref="taxon:7227"
/clone="BACR20K04"
/clone_lb="RPCI-98"
/note="end : T7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ocation/Qualifiers
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Pred. No. 11;
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FEATURES

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Query Match
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Matches 61
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                                                                                                                                       Cellular Immunology
Heinrich Pette-Institute
Martinistr. 52, 2025! Hamburg, Germany
Email: URL: http://genetics.hpi.uni-hamburg.de/dt40est.html.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Email: Madeleine.Douaire@roazhon.inra.fr
Sequence cleaned of vector, adaptator and repetitions. Contact us
at sigenasupport@jouy.inra.fr to obtain the chromatogram of this
                                                                                                                                                                                                                                                                           Abdrakhmanov,I., Lodygin,D., Geroth,P., Arakawa,H., Law,A., Plachy,J., Korn,B. and Buerstedde,J.M.
A large database of chicken bursal ESTs as a resource for the analysis of vertebrate gene function genome Res. 10 (12), 2062-2069 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                             AJ397466 dkfz426 Gallu
AJ397466
AJ397466.1 GI:7130433
EST
                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae;
Phasianinae; Gallus.
1 (bases 1 to 718)
                                                                                                                                                                                                                                                                                                                                                                                                                               Gallus gallus (chicken)
Gallus gallus
                                                                                                                                                                                                                                 Contact:
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oviduct, small folicule, utero-vaginal gland"
/dev_stage="adult"
/lab_host="DH10B"
                                                                                                                                                                                                                                 Buerstedde JM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                dkfz426 Gallus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="Vector: pT7T3D-pac; Clone distribution: AGENAE Resource centre. François PIUMI, François.Plumi.inra.fr, INRA, CEA Radiobiologie et Etude du genome (IREG), Domaine de Vilvert, 78352, Jouy-en-Josas cedex, FRANCE"
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/clone="gcab0001b.d.10"
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(gcab) ⊓
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/tissue_type="Bursa of Fabricius"
/cell_type="bursal lymphocyte"
/dev_stage="2-3 weeks old"
                                                                                             organism="Gallus gallus"
|mol_type="mRNA"
                                                        /db_xref="taxon:9031"
/clone="2:7r1"
                                                                                  strain="CB"
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cDNA clone 2i7rl, mRNA sequence
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CC684922
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Email: whitelaw@tigr.org
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Fax: 301-838-0208
                                                                                                                                                                                                                                                    Similarity
                                   ACGAGAGGGCGCTTTGCTCTCTCCCTGTCCCGC
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                                                                                                                                                                                                                                                                                                                                                                                                   /mol_type="genomic DNA"
/strain="B73"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                  organism="Zea mays"
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Pred. No. 11;
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> 865 321

RESULT 6 AJ397466/c

REFERENCE

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KEYWORDS VERSION

ACCESSION DEFINITION

FEATURES

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COMMENT

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ORIGIN

865 TTCTCCTGTATTCTCCTTGTTGTCGCAGTATGTGCAG TTTTGCTAAGGTCACCTTCTTGCTGCAGCCTCTGCAG CTTGGGGCAGTTGGCCATCTGCTCCTGCACCTTTGCACAAGACGAGACGTGAGACCGCAT сттеестствтолскатесестветтеттеттевералавестестваливателетел Score 39.4; DE Pred. No. 10; 0; Mismatches B 36; 9 21 901 Length 718; Indels <u>.</u> Gaps 58 864 0

CC684922 743 bp DNA linear GSS 19-JU OGUAX55TH ZM_0.7_1.5_KB Zea mays genomic clone ZMMBMa0397J14, genomic survey sequence. GSS 19-JUN-2003

Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnollophyta; Liliopsida; Poales; Poaceae; PACCAD clade; Panicoideae; Andropogoneae; Zea.

1 (bases 1 to 743)

Whitelaw, C.A., Quackenbush, J., Van Aken, S., Utterback, T., Whitelaw, C.A., Dudiman, M.A., Bedell, J.A., Rohlfing, T., Citek, R.W., Nunberg, A., Robbins, D. and Lakey, N. Consortium for Maize Genomics
Unpublished (2002)
Other GSSs: OGUAXSSTV
Contact: Cathy Whitelaw

9712 Medical Center Drive, Rockville, Tel: 301-838-5843 MD 20850, USA

/db xref="taxon:4577"
/clone="zyMBMa0397J14"
/clone_lib="ZM_0.7 7.1.5_KB"
/clone_lib="ZM_0.7 7.1.5_KB"
/note="Vector: pBCSK-; Site 1: HincII; 0.7-1.5
methylation filtered genomic DNA library"

TATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAAATTAAGGGCC 650 rccaerrcccrrrccrcrcrcrcrcacec 683 cerececerecedes de la contracta de la contract CCGCAGGCTGGTCGCCGACTTATCTCAATGCAAATAGCGTTTCACTCCTACTGGG Mismatches В 627 71; Length Indels CTAAAGCTTCAGGTC 0 Gaps

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                                                                                                                                                                                                                                        Email: seqref@genoscope.cns.fr, Web: www.genoscope.cns.fr
Library was constructed by Life Technologies, a division of
Invitrogen. Contact: Feng Liang Email: fliang@lifetech.co
http://fulllength.invitrogen.com/ InVitroGen Corporation 10
Faraday Avenue Genoscope sequence ID: CSODIO72CCO3NP1.
                                                                                                                                                                                                                                                                                                                                                                                                                                              Li,W.B., Gruber,C., Jessee,J. and Polayes,D. Full-length cDNA libraries and normalization Unpublished (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BX381961 Homo sapiens PLACENTA COT 25-NORWALIZED Homo Clone CS0D1072YF05 3-PRIME, mRNA sequence.

BX381961 EXAMPLE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE
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BP 191 91006 EVRY cedex - France
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo gapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens (human)
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/clone="CSODIO72YP05"
/clssue type="PLACENTA COT 25-NORMALIZED"
/clone lib="Domo sapiens PLACENTA COT 25-NORMALIZED"
/note="ist strand cDNA was primed with a NotI-oligo(
                                                                                                          /mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                   organism="Homo sapiens"
/mol_type="mRNA"
                                                                                                                                                                                                                 ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Craniata; Vértebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
        a NotI-oligo(dT)
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397 CACATTGCTGGTGAACTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGT
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                                                                                    MMKKNIMIMBKKONCMMKKOMCCMMKKKKIGHKKOMMKKOMMOCKKBMMCKKNKOMONKOMMVKKKKA
                                                                                                                                                                      KKNINININININININININININKKMIKMSKCKKKKMCCKMCKKKKKIMBKGKMVCMCKMMIKN
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MMNBKCVMKMKMKMCCKKVMMBKMCAKKKK 975
                                       ATCCTTAAGCCCCTACGTGAATCACAATTT 966
                                                                                                                            CTCCTTGTTGTCGCAGTATGTGCAGTCATTACTTTTGCGCTCCGGGCGGTTCCGTTCTTA
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Gallus gallus (chicken)
Gallus gallus
Eukaryota; Metazoa; Chordata; (
Archosauria; Aves; Neognathae;
Phasianinae; Gallus.
                                    Klopp,C. and Douaire,M.
Construction and primary characterization
multi-tissue cDNA libraries
Unpublished (2003)
Contact: Douaire M
INRA, UMR INRA-ENSAR Genetique Animale
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BX540413 AGENAE Gallus gallus multi-tissues library
gallus cDNA clone gcab0001b.d.10 5prim, mRNA sequenc
65, rue de Saint-Brieuc, RENNES
Tel: +33 (0) 2.23.48.54.63
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                                                                                                                                            cault, F., Le Meuth-Metzinger, V.,
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(gcab) Gallus
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RESULT 2
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Class: NotI site.
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                                                                                                                              1 Similarity
47; Conserv
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Library was constructed by Life Technologies, a division of
Invitrogen. Contact: Feng Liang Email: fliang@lifetech.com URL:
http://fulllength.invitrogen.com/ Invitroden Corporation 1600
Faraday Avenue Genoscope sequence ID: CSODIO15CA02NP1.
Location/Qualifiers
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Li,W.B., Gruber,C., Jessee,J. and Polayes,D.
Full-length cDNA libraries and normalization
Unpublished (2001)
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
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                                                                                                                                                                                                                                                                                        /Organism="Homo sapiens"
/mol_type="man:9606"
/db xref="texon:9606"
/dl xref="texon:9606"
/clone="CSODI015YB03"
/clone="CSODI015YB03"
/clone="Job="piacenta COT 25-NORMALIZED"
/clone lib="Jom sapiens PLACENTA COT 25-NORMALIZED"
/clone lib="Jom sapiens PLACENTA COT 25-NORMALIZED"
/note="1st strand cDNA was primed with a NotI-clipo(dT)
/note="1st strand cDNA was primed, double-strand cDNA was
primer. Five prime end enriched, double-strand cDNA was
digested with Not I and cloned into the Not I and Ecor V
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/mal_type="genomic DNA"
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Query Match 3.3%; Score 41.8; Dest Local Similarity 9.1%; Pred. No. 2.7; Matches 55; Conservative 238; Mismatches

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Genoscope - Centre National de Sequencage
Bp 191 9106 EVRY cedex - France
Bp 191 9106 EVRY cedex - France
Invirary was constructed by Life Technologies, a division of Invitrogen. This sequence belongs to sequence cluster 2866.f Contact: Feng Liang Email: fliang@lifetech.com URL: http://fulllength.invitrogen.com/ Invitrogen.com/ Corporation 1600 Faraday Avenue Genoscope sequence ID: CSODC022BG066P1.
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Li,W.B., Gruber,C., Jessee,J. and Polayes,D. Full-length cDNA libraries and normalization Unpublished (2001)
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
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/tissue_type="NEUROBLASTOMA COT 25-NORMALIZED"
/tissue_type="NEUROBLASTOMA COT 25-NORMALIZED"
/clone_lib="Homo sapiens NEUROBLASTOMA COT 25-NORMALIZED"
/note="1st strand cDNA was primed with a NotI-cligo(dT)
primer. Five prime end enriched, double-strand cDNA was
digested with Not I and cloned into the Not I and Ecor V
sites of the pCMVSPORT 6 vector. Library was normalized."
                                                                                                                                   /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
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and is derived by analysis of the total score distribution.
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Copyright (c) 1993 - 2004 Compugen Ltd.
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BX381961 BX381961
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AQ36633
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SION AQ36633.1 GI:7213011
RDS GSS.
B Homo sapiens (human)
ANISM Homo sapiens genomic, genomic survey
B Homo sapiens (human)
ANISM Homo sapiens (human)
B Homo sapiens
E Likaryota, Metazoa, Chordata; Craniata, Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 473)
1 (bases 1 to 473)
1 (bases 1 to 473)
2 Zabarovsky, E.R., Gizatullin, R., Podowski, R.M., Zabarovska, V.V.,
Xie, L., Muravenko, O.V., Kozyrev, S., Petrenko, L., Skobeleva, N.,
Li, J., Protopopov, A., Kashuba, V., Ernberg, I., Winberg, G. and
NIT Clones in the analysis of the human genome
Nucleic Acids Res. 28 (7), 1635-1639 (2000)
BMED 10710430
Contact: Podowski RM
Center for Genomics Research
Karolinska Institute
17177 Stockholm, Sweden
17177 Stockholm, Sweden
Fax: +46-8-337983

Search c	용	γQ	B	γŞ	Дb
Search completed: April 17, 2004, 20:13:02 Job time : 148.874 secs	866 GTCC 869	829 CTTC 832	806 GCCCACATGACGCCACTGCCGGTGTTGCTGCTGCTGGCTG	769 TCCAGGTCAGGCCCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGTTGACCATCCGGTA 828	746 ATAGCCGTTGCCTGCTTGCTGCTGCTGCTGTCTTGCTGTCCCATTGCACCCGTAGTGGT 805

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RESULT 13
US-60-548-091-19934
; Sequence 19934, Application US/60548091
; GENERAL INFORMATION:
; APPLICANT: CARGILL, Michele et al.
; TITLE OF INVENTION: GENERIC POLYMORPHISMS ASSOCIATED WITH
; TITLE OF INVENTION: STROKE, METHODS OF DETECTION AND USES
; FILE REFERENCE: CL001506
; FILE REFERENCE: CL001506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 12
US-10-021-698A-716
; Sequence 716, Application US/10021698A
; GENERAL INFORMATION:
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                                                                                                                                                                                               CURRENT APPLICATION NUMBER: US/60/548,091
CURRENT FILING DATE: 2004-02-27
NUMBER OF SG ID NOS: 24433
SOFTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 19934
LENGTH: 201
                                                             Matches
                                                                         Query Match
Best Local Similarity
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Best Local
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SEQ ID NO 716
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APPLICANT: ALLEN, KRISTINA
APPLICANT: PANDIT, SUNIL
TITLE OF INVENTION: NUCLEOTIDE AND AMINO ACID SEQUENCES RELATING
TITLE OF INVENTION: RESPIRATORY DISEASES AND OBESITY
FILE REFERENCE: 2976-4044USI
CURRENT APPLICATION NUMBER: US/10/021,698A
CURRENT PILING DATE: 2001-10-22
PRIOR APPLICATION NUMBER: 60/211,749
PRIOR FILING DATE: 2000-06-14
NUMBER OF SEQ ID NOS: 6160
SOFTWARE: Patentin 2.1
SOFTWARE: Patentin 2.1
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NAME/KEY: modified base
LOCATION: (167286)...(167385)
OTHER INFORMATION: a, t, c o
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LOCATION: (88987)...(89086)
OTHER INFORMATION: a, t, c
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ORGANISM: Homo sapiens
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342 TGCTGGTCATCGCCCTCGTTGTGGGCGCAGCGCCCCTGGGCGCCATCGCGCTCACCACAT 401
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Pred. No. 39;
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                                                                                                   DB 7; Length 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 6;
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                                                               61; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 173233;
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US-60-548-091-19938
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                                                                                         ; OTHER INFORMATION: Clone ID: SORBI-28MAY03-CLUS73927_1
US-10-767-701-9054
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                                                                                                                                                                                                             Sequence 9054, Application US/10767701

GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
APPLICANT: Cao, Yongwei
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
TILE REFERENCE: 38-21(5355)B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 9054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/60/548,091
CURRENT FILING DATE: 2004-02-27
NUMBER OF SEQ ID NOS: 24433
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 19938
LENGTH: 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 19938, Application US/60548091
GENERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: STROKE, METHODS OF DETECTION AND USES
Query Match 2.6%;
Best Local Similarity 54.0%;
Matches 67; Conservative
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Best Local
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ORGANISM: Homo sapiens
                                                                                                                                                TYPE: DNA ORGANISM: Sorghum bicolor
                                                                                                                                    FEATURE:
                                                                                                                                                                                                   LENGTH: 1028
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       402 TGCTGGTGAACTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAAA 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          462 ACCCCATTGCC 472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         109 GCTTCAGGAGCACCCGGCACAATTTCAACTCCATGGCGTTCCCGCTGCTGGGATTCTACC 168
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGCTGGTCATCGGCTCCCTGGTGGCTCGCTGGGGGATTCAGGAGGGYGGCTTCT
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Score 32.8; DB 6; Length 1028; Pred. No. 2.1; 0; Mismatches 57; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1; Mismatches
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Pred. No. 0.63;
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709 AAAGCAGATCCCTTCTCTGCTGCTCGCAGGTTTGAGCTTCACCATTGCTCTTGTGGGTAAT 768

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422 GT

US-10-765-790-62

APPLICANT:
APPLICANT:

401

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; TYPE: DNA
; ORGANISM: Homo sapiens
US-10-765-790-62
                                                                                                                                                                                                                                                                         RESULT 10
US-60-548-091-5686
Sequence 5686, Application US/60548091

GENERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: STROKE, METHODS OF DETECTION AND USES THEREOF
FILE REPRESENCE: CL001506
FULE REPRESENCE: CL001506
CURRENT APPLICATION NUMBER: US/60/548,091
CURRENT PILING DATE: 2004-02-27
NUMBER OF SEQ ID NOS: 224433
SOFTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 5686
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Best Local Similarity
Matches 67; Conser
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SEQ ID NO 62
LENGTH: 23490
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GENERAL INFORMATION:
APPLICANT: Bayer Healthcare LLC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION NUMBER: US/10/765,790
CURRENT FILING DATE: 2004-01-27
PRIOR APPLICATION NUMBER: US 10/737,082
PRIOR FILING DATE: 2003-12-16
NUMBER OF SEQ ID NOS: 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Li, Zheng
TITLE OF INVENTION: Identification and Verification of Methylation Marker Sequences
FILB REFERENCE: 1657/2035
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                             21270 GGAGCTGGGGCCTGGCCTGGCCTGGTGAGCGGCTATGCGCTGGTGGGGGGCCTCGACT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                273 ACCAGCGCCGACGGCCTGGGGCTCTTCTCCTCCAGCACCTTGTGGATGAGGTACTGCGCC
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Gannon, Allison
Harvey, Jeanne
Lechner, John F.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGTGGGCGCAGCGCCCTGGGCGCCATCGCGCCACATTGCTGGTGAACTTCCGCCA
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Pred. No. 0.56;
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Pred. No. 7;
0; Mismatches 87; Indels 0;
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; ORGANISM: Homo sapiens
US-09-804-291A-500
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US-09-804-291A-500
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PRIOR FILING DATE: 2000-05-26
PRIOR APPLICATION NUMBER: 60/213,849
PRIOR APPLICATION NUMBER: 60/226,534
PRIOR APPLICATION NUMBER: 60/226,534
PRIOR APPLICATION NUMBER: 60/230,732
PRIOR APPLICATION NUMBER: 60/230,732
PRIOR FILING DATE: 2000-09-07
PRIOR APPLICATION NUMBER: 60/266,862
PRIOR FILING DATE: 2001-02-07
PRIOR FILING DATE: 2001-02-07
PRIOR FILING DATE: 2001-02-07
PRIOR FILING DATE: 2001-02-07
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SEQ ID NO 500
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GENERAL INFORMATI
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                                                                                                                                                                                                                                                                                                                                                Query Match 2.6%;
Best Local Similarity 54.0%;
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PRIOR FILLING DATE: 2000-03-13
PRIOR APPLICATION NUMBER: 60/192,033
PRIOR FILLING DATE: 2000-03-24
PRIOR APPLICATION NUMBER: 60/198,474
PRIOR FILLING DATE: 2000-04-14
PRIOR FILLING DATE: 2000-04-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILE REFERENCE: 100337.54287US
CURRENT APPLICATION NUMBER: US/09/804,291A
CURRENT FILING DATE: 2001-03-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION NUMBER: 60/199,335 PRIOR FILING DATE: 2000-04-24
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 24477
TYPE: DNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 930
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     17603 TéCTGGTCATCGGCTCCCTGGTGGCTCGCTGGCTCCTGGGGATTCAGGAGGGYGGYTTCT 17662
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                                                 629
                                                                                           687 CTTTGG 692
                                                                                                                                          569
                                                                                                                                                                                                                                                                           567 AAATAGCGTTTÇAÇTCCTACTGGGTATTCGGCGGTÇTÇACCGGAGTGGCGATCGCAGAGT 626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 68;
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                                                 TGCTGG
                                                                                                                                          CAAGCCTCTTAGAACTGATGGTCATCCTCTTGGCCGTTGTGACTCTCATGGTTACTCTGG
                                                                                                                                                                                  TGATTCCTTTTGAAATTAAGGGCCTCGAGTTCGCCCTTTGCTCTCTTTGTCACGCTGA 686
                                                                                                                                                                                                                                 ACATTCTGAATCACTATTACTGTGACTATGGGCCTCTCGTGGAGCTTGCCTGAGACA 568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Application US/09804291A
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Pred. No. 1.4;
0; Mismatches 58;
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Pred. No. 7.
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RESULT 6
US-10-100-683-11511
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LENGTH: 3173
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GENERAL INFORMATION:
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PRIOR
                                                                                                                                                                                                                                                                                                                                                           FILE REFERENCE: PS900
CURRENT APPLICATION NUMBER: US/10/100,683
CURRENT FILING DATE: 2002-03-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Remaining Prior Application data removed - NUMBER OF SEQ ID NOS: 13468
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PRIOR APPLICATION NUMBER: US 60/043,576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION NUMBER: US 60/040,162 PRIOR FILING DATE: 1997-03-07
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                                                                                                                                                                                                                                                                                                                    CURRENT FILING DATE: 2002-03-19
PRIOR APPLICATION NUMBER: US 60/040,162
PRIOR FILING DATE: 1997-03-07
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                                                                                                                                                                                                                                                          PRIOR FILING DATE: 1997-04-11
PRIOR APPLICATION NUMBER: US 60/047,601
                                                                                                                                                                                                                                                                                               PRIOR APPLICATION NUMBER: US 60/043,576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                           PPLICANT:
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[TLE OF INVENTION: Human Secreted Proteins
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APPLICATION NUMBER: US 60/047,601
FILING DATE: 1997-05-23
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APPLICATION NUMBER: US 60/047,632
FILING DATE: 1997-05-23
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APPLICATION NUMBER: US 60/047,599
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                                                                                                                                   FILING DATE: 1997-04-11
APPLICATION NUMBER: US 60/047,599
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                                                        APPLICATION NUMBER: US 60/043,314
                                                                                                                  FILING DATE: 1997-05-23
               APPLICATION NUMBER: US 60/047,632
                                                                           FILING DATE: 1997-08-22
                                                                                          APPLICATION NUMBER: US 60/056,664
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Pred. No. 1
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US-10-100-683-11511
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US-10-767-701-7545
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US-10-767-701-744/c
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; OTHER INFORMATION: Clone ID: SORBI-28MAY03-CLUS124346_1 US-10-767-701-744
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CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 7545
LENGTH: 666
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NUMBER OF SEQ ID NOS: 13468
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 11511
LENGTH: 7071
                                                                                                                                          Sequence 744, Application US/10767701
GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
APPLICANT: Kovalic, David K.
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REPERENCE: 38-21(5355)B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
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Best Local S
                                                                                         NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 744
LENGTH: 561
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APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(53535)B
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                                                 TYPE: DNA ORGANISM: Sorghum bicolor
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                                     FEATURE:
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ilarity 57.4%;
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Pred. No. 1.7;
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Pred. No. 0.46;
0; Mismatches
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NAME/KEY: misc feature;
LOCATION: (B) LOCATION 1...768;
SEQUENCE DESCRIPTION: SEQ ID NO: 1266;
US-10-417-884A-1266
US-10-767-701-5263
Sequence 5263, Application US/10767701
GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
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PRIOR APPLICATION DATA:

APPLICATION NUMBER: US/09/107,532

FILING DATE: 30-Jun-198

APPLICATION NUMBER: 60/055,598

FILING DATE: 14 May 1998

APPLICATION NUMBER: 60/051571

FILING DATE: July 2, 1997

ATTORNEY/AGENT INFORMATION:

NAME: Ariniello, Pamela Deneke
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: CD/ROM ISO9660
COMPUTER: PC
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LENGTH: 768 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
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REFERENCE/DOCKET NUMBER: GTC-012
TELECOMMUNICATION INFORMATION:
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OPERATING SYSTEM: <Unknown>
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                                                                                                                                                                                                                                                                                                                                                                 TCAAAGACACGTTACCTACCGTTTTCGGTTATATCGGTATTGGACTTGCATTTGGTATCG 151
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ADDRESSEE: GENOME THERAPEUTICS CORPORATION
                                                                                                                                                                          TCGCGCTCACCACATTGCTGGTGAACTTCCG 417
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                                                                                                                                      TCGTTTTCTCGACCTTTCTAGTCAATTCCCG 302
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Pred. No. 0.0075;
0; Mismatches 107;
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APPLICANT: Zhou, Yihua

TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With

TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement

FILE REFERENCE: 38-21(5353)B

CURRENT APPLICATION NUMBER: US/10/767,701

CURRENT FILING DATE: 2004-01-29

NUMBER OF SEQ ID NOS: 63128

SEQ ID NO 10866

LENGTH. 100.
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US-10-767-701-5263
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 10866, Application US/10767701 GENERAL INFORMATION:
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TYPE: DNA
ORGANISM: Sorghum bicolor
FEATURE:
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271
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72; Conserv
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88; Conserv
                                                                      GTGGCGGTGGTGCCCCGCAGTTCTGCGCGCCGTACGTGCCCCTGACGGTGACCAAG 270
                                                                                                         TTGCTGGTGAACTTCCGCCACGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAA 460
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                                 AACCCCATTGCCCGTTTCTATTCGGTTTTCGCGCTTATCGACGAAGCCTACGCAGTC 517
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 AAGGCCATCAGCCTCTCCGACGGCGACTTCACCGTCACCGACGCCAACGGCGCCGTC
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RESULT 5 US-10-100-683-983/c

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1: /cgn2_6/ptodata/1/pna/PCT NEW_COMB.seq:*
2: /cgn2_6/ptodata/1/pna/US06 NEW_COMB.seq:*
3: /cgn2_6/ptodata/1/pna/US07_NEW_COMB.seq:*
4: /cgn2_6/ptodata/1/pna/US08 NEW_COMB.seq:*
5: /cgn2_6/ptodata/1/pna/US08 NEW_COMB.seq:*
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Copyright (c) 1993 - 2004 Compugen Ltd.
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ALIGNMENTS

APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21 (53355)B
CURRENT APPLICATION UNMERR: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 10854
LENGTH: 1014
TYPE: DNA

RESULT 1 US-10-767-701-10854

Sequence 10854, Application US/10767701 GENERAL INFORMATION:

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RESULT 2
US-10-417-884A-1266
JS-10-417-884A-1266
Sequence 1266, Application US/10417884A
GENERAL INFORMATION:
APPLICANT: Lynn A Doucette-Stamm
TITLE OF INVENTION: NUCLEIC ACID
ENTEROCOCCUS
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Best Local Similarity
Matches 105; Conserv
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Pred. No. 0.0066;
0; Mismatches 108;
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and David Bush
AND AMINO ACID SEQUENCES RELATING TO
FAECIUM FOR DIAGNOSTICS AND THERAPEUTICS

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ORGANISM: Streptomyces avermitilis
FEATURE:
NAME/KEY: CDS
LOCATION: (1) .. (594)
US-10-156-761-6067
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APPLICANT: SAKAKI, YOSHIYUKI
APPLICANT: HATTORI, MASAHIRA
TITLE OF INVENTION: NOVEL POLYNUCLEOTIDES
FILE REFERENCE: 249-262
CURRENT APPLICATION NUMBER: US/10/156,761
CURRENT FILING DATE: 2002-05-29
PRIOR APPLICATION NUMBER: UP 2001-204089
PRIOR APPLICATION NUMBER: UP 2001-204089
PRIOR PILING DATE: 2001-05-30
PRIOR PILING DATE: 2001-08-07
PRIOR FILING DATE: 2001-08-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME/KEY: misc_feature; LOCATION: (4187715); OTHER INFORMATION: a, t, US-10-156-761-1
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PRIOR APPLICATION NUMBER: JP 2001-272697
PRIOR FILING DATE: 2001-08-02
NUMBER OF SEQ ID NOS: 15109
SEQ ID NO 6067
LENGTH: 594
TYPE: DNA
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APPLICANT: OMURA, SATOSHI
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cal Similarity 50.7%;
103; Conservative
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NUMBER OF SEQ ID NOS: 612
SEQ ID NO 80
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Publication No. US20030044930A1
GENERAL INFORMATION:
APPLICANT: Baker, Kevin P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 3.3%; Score 41.4; DB 14; Best Local Similarity 13.4%; Pred. No. 0.0073; Matches 45; Conservative 103; Mismatches 187;
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TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC
TITLE OF INVENTION: ACIDS ENCODING THE SAME
FILE REFERENCE: P3430R1C227
CURRENT APPLICATION NUMBER: US/10/184,644
CURRENT FILING DATE: 2002-06-28
CURRENT FILING DATE: 2002-06-28
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.S.SCBSS
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.MT.R.WNSTTTS.BT
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APPLICANT: OZAKI, AKIO
TITLE OF INVENTION: NOVEL POLYNUCLEOTIDES
FILE REFERENCE: 249-125
FURRENT APPLICATION NUMBER: US/09/738,626
CURRENT FILING DATE: 2000-12-18
FRIOR APPLICATION NUMBER: UP 99/377484
PRIOR APPLICATION NUMBER: UP 99/377484
PRIOR APPLICATION NUMBER: UP 00/159162
PRIOR APPLICATION NUMBER: UP 00/159162
PRIOR FILING DATE: 2000-04-07
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US-09-738-626-1/c
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Publication No. US20020197605A1
GENERAL INFORMATION:
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APPLICANT: MIZOGUCHI, HIROS
APPLICANT: ANDO, SEIKO
                            PRIOR FILING DATE: 2000-04-07
PRIOR APPLICATION NUMBER: JP 00/280988
PRIOR FILING DATE: 2000-08-03
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SEQ ID NOS: 7059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HAYASHI, MIKIRO
OCHIAI, KEIKO
YOKOI, HARUHIKO
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SENOH, AKIHIRO
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                        APPLICANT: OMURA, SATOSHI
APPLICANT: IKEDA, HARUO
APPLICANT: ISKIRA, HARUO
APPLICANT: HORIKAWA, HIROSHI
APPLICANT: HORIKAWA, HIROSHI
APPLICANT: SHIBA, TADAYOSHI
APPLICANT: SAKAKI, YOSHIYUKI
APPLICANT: HATTORI, MASAHIRA
TITLE OF INVENTION: NOVEL POLYNUCLEOTIDES
FILE REFERENCE: 249-262
CURRENT FILING DATE: 2002-05-29
CURRENT FILING DATE: 2002-05-29
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US-10-156-761-6067
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                                                                                                                                                                                                                                                                                                                                                                                        Sequence 6067, Application US/10156761 Publication No. US20030119018A1 GENERAL INFORMATION:
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Best Local Similarity
PRIOR APPLICATION NUMBER: JP 2001-204089
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; ORGANISM: Corynebacterium glutamicum US-09-738-626-1
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SEQ ID NO 1
LENGTH: 3309400
TYPE: DNA
3289369 TTCTCCGCGTCCGCTTC 3289353
                                                                                                                                                                                                                                                                                                                                3289489 TCAAAAATAACAAGGATTATTCGCTGCCATTATTCGCGGTGGTATTGGCTCTGGTTTCCG 3289430
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                                                                                 819 CCATCCGGTACTTCTTC 835
                                                                                                                                                                                                                                               759 TTGTGGTAATTCCAGGTCAGGCCCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGTTGA 818
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                                                                                                                                                                  GTTTTGTGGCGCCCGAGCAGATGCTGGTTATCGCTTTGACCACGTACTTTTTGATCCTTC 3289370
                                                                                                                                                                                                                                                                                                                                                                                                             GCCGAACGAAAAAGCAGATCCCTTCTCTGCTGCTCGCAGGTTTGAGCTTCACCATTGCTC 758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATCTAAAAGGCATGGATTTTGCCCTGACCGCGCTGTTTGTGGTGCTGGCGTGGGGAGGCAT 3289490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAATTAAGGGCCTCGAGTTCGCCCTTTGCTCTCTCTTTGTCACGCTGACTTTGGATTCCT 698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGCCCGCCCACCTGGCGATATCAGTGGCACGCGGGTGCTTACCGTTCAAATTTTGTGCC 3289610
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACTCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTG 638
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCCCATTGCCCGTTTCTATTCGGTTTTCGCGCTTATCGACGAAGCCTACGCAGTCACTG 521
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Sequence 1, Application US/10134640

Publication No. US20030017555A1

GENERAL INFORMATION:
APPLICANT: Bathe, Brigitte
APPLICANT: Kalinowski, Jorn
APPLICANT: Wockel, Bettina
APPLICANT: Publer, Alfred
APPLICANT: Pfefferle, Walter
ITITE OF INVENTION: Nucleatide Sequences Coding for the 1rp Gene
FILE REFERENCE: 990109 BT
CURRENT APPLICATION NUMBER: US/10/134,640

CURRENT FILING DATE: 2002-04-30

NUMBER OF SEQ ID NOS: 9

SOFTWARE: PatentIn version 3.1

SEQ ID NO 1
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CURRENT RILING DATE: 2003-06-30
PRIOR APPLICATION NUMBER: US 09/471,803
PRIOR FILING DATE: 1999-12-23
PRIOR PILING DATE: 1999-10-27
NUMBER OF SEQ ID NOS: 12
SOFTWARE: Patentin Ver. 2.1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO 4
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APPLICANT:
APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURE:
NAME/KEY: CDS
LOCATION: (1)..(324)
OTHER INFORMATION: brnE
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ORGANISM: Corynebacterium glutamicum
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; NAME/KEY: -35_signal; LOCATION: (62)..(67); OTHER INFORMATION: US-10-134-640-1
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US-09-738-626-3408
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                                                   US-09-738-626-3408
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Best Local Similarity
                                                                                                    SOFTWARE: PatentIn ver.
SEQ ID NO 3408
LENGTH: 711
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 3408, Application US/09738626 Publication No. US20020197605A1
Query Match
Best Local Similarity
                                                                                                                                                  PRIOR APPLICATION NUMBER: JP 99/377484
PRIOR FILING DATE: 1999-12-16
PRIOR APPLICATION NUMBER: JP 00/159162
PRIOR FILING DATE: 2000-04-07
PRIOR APPLICATION NUMBER: JP 00/280988
PRIOR FILING DATE: 2000-08-03
NUMBER OF SEQ ID NOS: 7059
                                                                                                                                                                                                                                                                        TITLE OF INVENTION: NOVEL POLYNUCLEOTIDES FILE REFERENCE: 249-125 CURRENT APPLICATION NUMBER: US/09/738,626 CURRENT FILING DATE: 2000-12-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: NAKAGAWA, SATOSHI
APPLICANT: MIZOGUCHI, HIROS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY: CDS
LOCATION: (151)..(612)
OTHER INFORMATION: 1rp-Gen
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LOCATION: (88)..(93)
OTHER INFORMATION:
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                                                                   ORGANISM: Corynebacterium glutamicum
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                125
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OCHIAI, KEIKO
YOKOI, HARUHIKO
TATEISHI, NAOKO
SENOH, AKIHIRO
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 10.0%;
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; Pred. No. 1.5e-51;
Score 127.4; DB 9; Pred. No. 6.1e-32;
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                  Length 711;
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APPLICANT: Kalinowski, Jorn
APPLICANT: Puhler, Alfred
APPLICANT: Puhler, Alfred
APPLICANT: Mockel, Bettina
APPLICANT: Meffetele, Walter
TITLE OF INVENTION: Nucleotide Sequences Coding for the lrp General Currence 1990109 BT
CURRENT APPLICATION NUMBER: US/10/134,640
CURRENT FILING DATE: 2002-04-30
RUMBER OF SEQ ID NOS: 9
SOFTWARE: Patentin version 3.1
SEQ ID NO 9
LENGTH: 778
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US-10-134-640-9/c
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APPLICANT: Bathe, Brigitte
APPLICANT: Kalinowski, Jo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 9, Application US/10134640 Publication No. US20030017555A1
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Best Local &
                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: misc feature
LOCATION: (434)...(778)
OTHER INFORMATION: downstream region of the lrp gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: misc_feature
LOCATION: (350)..(376)
OTHER_INFORMATION: 5'-region
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LOCATION: (398)..(433)
OTHER INFORMATION: 3'-region
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LOCATION: (377)..(397)
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OTHER INFORMATION: upsream
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nes 368; Conservative
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                                                                              GTATTGCGTTTGGTCTCTTGGTTÄTTCÄÄTACGGCTACGAATGGTGGGCAGCCCCACTGT
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Pred. No. 5.2e-113;
0; Mismatches 4; Indels 0;
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RESULT 9
US-10-608-504-4
; Sequence 4, Application US/10608504
; Publication No. US20040014123A1
; GENERAL INFORMATION:
; APPLICANT: KENNERKNECHT, NICOLE
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CURRENT APPLICATION NUMBER: US/09/738,626
CURRENT FILING DATE: 2000-12-18
PRIOR APPLICATION NUMBER: JP 99/377484
PRIOR FILING DATE: 1999-12-16
PRIOR APPLICATION NUMBER: JP 00/159162
PRIOR PRILING DATE: 2000-04-07
PRIOR APPLICATION NUMBER: JP 00/280988
PRIOR FILING DATE: 2000-08-03
NUMBER: OF SEQ ID NOS: 7059
SOCTWARE: Patentin ver. 3.0
LENGTH: 324
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; TYPE: DNA
; ORGANIEM: Corynebacterium glutamicum
US-09-738-626-290
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Publication No. US20020197605A1
GENERAL INFORMATION:
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
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APPLICANT: MIZOGUCHI, HIROS
APPLICANT: ANDO, SEIKO
APPLICANT: HAYASHI, MIKIRO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: OZAKI, AKIO
TITLE OF INVENTION: NOVEL POLYNUCLEOTIDES
FILE REFERENCE: 249-125
FILE REFERENCE: 249-125
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OCHIAI, KEIKO
YOKOI, HARUHIKO
TATEISHI, NAOKO
SENOH, AKIHIRO
IKEDA, MASATO
OZAKI, AKIO
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                                                                                                                                                                                                                                                                                                            GCGCTCCGGGCGGTTCCGTTAATCCTTAAGCCCCTACGTGAATCACAATTTGTGGGC
                                  TTTGTTGGACTGGTGAATCTTTTC 1176
                                                                            GTGGCGCATCTTCTTGGCGGTCGACGCACCTTGTTGA
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TTTGTTGGACTGGTGAATCTTTTC 324
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Pred. No. 4.3e-99;
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1092 180 1032 120

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972 60

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APPLICANT: ENHNERWECHT, NICOLE
APPLICANT: SAHM, HERWAN
APPLICANT: EGGELING, LOTHAR
APPLICANT: PEGGELING, LOTHAR
APPLICANT: PEGFERLE, WALTER
ITITE OF INVENTION: NUCLEOTIDE SEQUENCE CODING FOR THE EXPORT OF
ITITLE OF INVENTION: BRANCHED CHAIN AMINO ACIDS, PROCESS FOR THE
ITITLE OF INVENTION: ISOLATION THEREOF AND USE THEREOF
ITITLE OF INVENTION: OF ISOLATION THEREOF AND USE THEREOF
ICURRENT APPLICATION NUMBER: US/10/608,504
CURRENT FILING DATE: 2003-06-30
PRIOR APPLICATION NUMBER: US 09/471,803
PRIOR APPLICATION NUMBER: US 09/471,803
PRIOR APPLICATION NUMBER: US 199-12-23
PRIOR APPLICATION NUMBER: US 199-10-27
NUMBER OF SEQ ID NOS: 12
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 2
LENGTH: 753
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US-10-608-504-2
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Publication No. US20040014123A1
GENERAL INFORMATION:
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Best Local Simi
Matches 753;
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ORGANISM: Corynebacterium g
PEATURE:
NAME/KEY: CDS
LOCATION: (1)..(753)
OTHER INFORMATION: brnF
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                          TCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAA
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    rcctactgegtartcggcggrctcaccggagtggcgatcgcagagttgattccttttgaa
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APPLICANT: Kalinowski, Jorn
APPLICANT: Kalinowski, Jorn
APPLICANT: Wolker, Alfred
APPLICANT: Puhler, Alfred
APPLICANT: Pefferle, Walter
TITLE OF INVENTION: Nuclectide Sequences Coding for
FILE REFERENCE: 990109 BT
CURRENT APPLICATION NUMBER: US/10/134,640
CURRENT FILING DATE: 2002-04-30
NUMBER OF SEQ ID NOS: 9
SOFTWARE: Patentin version 3.1
SEQ ID NO 7
LENGTH: 397
TYPE: DNA
ORGANISM: Corynebacterium glutamicum
FERATUPE:
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US-10-134-640-7/c
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LOCATION: (1)...(397)
OTHER INFORMATION: 1rp part
US-10-134-640-7
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Best Local Similarity 98.9%;
Matches 368; Conservative
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RESULT 4

US-09-738-626-289

Sequence 289, Application US/09738626

Publication No. US20020197605A1

GENERAL IMFORMATION:

APPLICANT: MIZOGUCHI, HIROSHI

APPLICANT: MAZAGAMA, SATOSHI

APPLICANT: MAZAGAHI, MIKIRO

APPLICANT: HAYASHI, MIKIRO

APPLICANT: OCHIAI, KEIKO

APPLICANT: TATEISHI, NAKKO

APPLICANT: TATEISHI, NAKKO

APPLICANT: SENOH, AKIHIRO

APPLICANT: SENOH, AKIHIRO

APPLICANT: MIKIDA, MASATO

APPLICANT: NOZAKI, AKIO

TITLE OF INVENTION: NOVEL POLYNUCLEOTII

FILE REFERENCE: 249-125
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       ANT: HAYASHI, MIKIRO
ANT: OCHIAI, KEIKO
ANT: YOKOI, HARUHIKO
ANT: TATEISHI, NAOKO
ANT: SENOH, AKIHIRO
ANT: IKEDA, MASATO
ANT: OZAKI, AKIO
OF INVENTION: NOVEL POLYNUCLEOTIDES
EFERENCE: 249-125
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CURRENT FILING DATE: 2000-12-18
PRIOR APPLICATION NUMBER: UP 99/377484
PRIOR FILING DATE: 1999-12-16
PRIOR APPLICATION NUMBER: UP 00/159162
PRIOR FILING DATE: 2000-04-07
PRIOR FILING DATE: 2000-08-03
PRIOR FILING DATE: 2000-08-03
NUMBER OF SEQ ID NOS: 7059
SOFTWARE: Patentin ver. 3.0
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LENGTH: 753
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; ORGANISM: Corynebacterium
US-09-738-626-289
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Best Local Similarity 100.0%; Pred. No. 6.5e-245;
Matches 753; Conservative 0; Mismatches 0;
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APPLICANT: HAYASHI, MIKKRO
APPLICANT: HAYASHI, MIKKRO
APPLICANT: YOKOI, HARUHIKO
APPLICANT: TATEIGHI, NAOKO
APPLICANT: TATEIGHI, NAOKO
APPLICANT: TEDA, MASATO
APPLICANT: IKEDA, MASATO
ITILE OP INVENTION: NOVEL POLYNUCLEOTIDES
FILE REFERENCE: 249-125
CURRENT APPLICATION NUMBER: US/09/738,626
CURRENT APPLICATION NUMBER: US/99/738,626
CURRENT FILING DATE: 1999-12-16
PRIOR APPLICATION NUMBER: JP 99/377484
PRIOR APPLICATION NUMBER: JP 99/377484
PRIOR APPLICATION NUMBER: JP 00/159162
PRIOR FILING DATE: 2000-04-07
PRIOR APPLICATION NUMBER: JP 00/280988
PRIOR APPLICATION NUMBER: JP 00/280988
PRIOR FILING DATE: 2000-08-03
NUMBER OF SEQ ID NOS: 7059
SOFTWARE: PATENTIN Ver. 3.0
SEQ ID NO 1
LENGTH: 3304400
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TYPE: DNA
CRGANISM: Corynebacterium glutamicum
US-09-738-626-1
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Publication No. US20020197605A1
GENERAL INFORMATION:
APPLICANT: NAKAGAWA, SATOSHI
APPLICANT: MIZOGUCHI, HIROSHI
APPLICANT: ANDO, SEIKO
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Publication No. US20040014123A1

GENERAL INFORMATION:
APPLICANT: KENNERKHECHT, NICOLE
APPLICANT: SAHM, HERMANN
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APPLICANT: NUCLEOTIDE SEQUENCE CODING FOR THE EXPORT OF
TITLE OF INVENTION: NUCLEOTIDE SEQUENCE CODING FOR THE TITLE OF INVENTION: SIGCLATION THEREOF
TITLE OF INVENTION: ISOLATION THEREOF AND USE THEREOF
TITLE OF INVENTION NUMBER: US/10/68,504
CURRENT APPLICATION NUMBER: US 09/471,803
PRIOR APPLICATION NUMBER: US 09/471,803
PRIOR APPLICATION NUMBER: US 09/471,803
PRIOR APPLICATION NUMBER: US 199-12-23
PRIOR APPLICATION ONDER: US 199-10-27
NUMBER OF SEQ ID NOS: 12
SOFTWARE: PRICE 199-10-27
LENGTH: 1271
TYPE: DNA
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OTHER INFORMATION: ATCC13032
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FEATURE:
NAME/KEY: gene
LOCATION: (101)..(853)
OTHER INFORMATION: brnf
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LOCATION: (853)..(1176)
OTHER INFORMATION: brnE
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               TCGGCGCTACGAAATCGCGCAAGGTCTAAAAACCTCCCTTGCTGCAGGTTTGGGCATGTA
                                                                        TCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTGGAACCAGATGATAAAGGTTA
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Pred. No. 0;
0; Mismatches
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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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Maximum DB seq length: 200000000
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Gapop 10.0 , Gapext 1.0
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1271
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                                                                                                                                                                                                                                                                                                                                                                                                           Published Applications NA:*
1: /cgn2_6/ptodata/1/pubpna/US:
2: /cgn2_6/ptodata/1/pubpna/FC2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
cgn2_6/ptodata/1/pubpna/US10_NEW_PUB.seq:*
cgn2_6/ptodata/1/pubpna/US60_NEW_PUB.seq:*
cgn2_6/ptodata/1/pubpna/US60_PUBCOMB.seq:*
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                                                                         _6/ptodata/1/pubpna/USO9B_PUBCOMB.seq:*
_6/ptodata/1/pubpna/USO9C_PUBCOMB.seq:*
_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
_6/ptodata/1/pubpna/US10A_PUBCOMB.seq:*
_6/ptodata/1/pubpna/US10B_PUBCOMB.seq:*
_6/ptodata/1/pubpna/US10C_PUBCOMB.seq:*
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                                                                                                                                                                                                                                                                                                                                                             bpna/PCT_NEW_PUB.seq:*
bpna/US06_NEW_PUB.seq:*
bpna/US06_PUBCOMB.seq:*
                     NEW PUB. seq: *
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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14 US-10-184-644-80	US-10-156-761-1	US-10-156-761-6067	US-09-738-626-1	US-09-738-626-3408	US-10-134-640-1	US-10-608-504-4	US-09-738-626-290	US-10-134-640-9	US-10-134-640-7	L5 US-10-608-504-2	US-09-738-626-289	US-09-738-626-1	US-10-608-504-6	US-10-608-504-1	ID
Sequence 80, Appl	Sequence 1, Appli	Sequence 6067, Ap	Sequence 1, Appli	Sequence 3408, Ap	Sequence 1, Appli	Sequence 4, Appli	Sequence 290, App	Sequence 9, Appli	Sequence 7, Appli	Sequence 2, Appli	Sequence 289, App	Sequence 1, Appli	Sequence 6, Appli	Sequence 1, Appli	Description

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Sequence 30075, A	Sequence 1	nce 57	equence 32	e 32	e 12	e 48	48	e 21	211	211	10	e 10	10	10	e 10	10	e 10	e 10	e 10		e 10,	e 10,	e 10,	e 100	Sequence 310, App	Sequence 310, App	e 346	equence 346

ALIGNMENTS

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RESULT 1
US-10-608-504-1
                                                  US-10-608-504-1
                                                                                                                                                                                                                                                                                                                                                                                                                         FILE REFERENCE: 7601/80525
CURRENT APPLICATION NUMBER: US/10/608,504
CURRENT FILING DATE: 2003-06-30
PRIOR APPLICATION NUMBER: US 09/471,803
PRIOR FILING DATE: 1999-12-23
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR FILING DATE: 1999-10-27
NUMBER OF SEQ ID NOS: 12
                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: PatentIn Ver.
SEQ ID NO 1
LENGTH: 1271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 1, Application US/10608504
Publication No. US20040014123A1
GENERAL INFORMATION:
Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: KENNERKNECHT, NICOLE
APPLICANT: SAHW, HERMANN
APPLICANT: EGGELING, LOTHAR
APPLICANT: PFEFFERLE, WALTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: SAHM, HERMANN
APPLICANT: EGGELING, LOTHAR
APPLICANT: PFEFFERLE, WALTER
APPLICANT: PFEFFERLE, WALTER
TITLE OF INVENTION: NUCLEOTIDE SEQUENCE CODING FOR THE EXPORT OF
TITLE OF INVENTION: BRANCHED CHAIN AMINO ACIDS, PROCESS FOR THE
TITLE OF INVENTION: ISOLATION THEREOF AND USE THEREOF
                                                                                                            NAME/KEY: gene
LOCATION: (853)..(1176)
OTHER INFORMATION: brnE
                                                                    FEATURE:
OTHER INFORMATION: ATCC14752
                                                                                                                                                                                                            NAME/KEY: gene
LOCATION: (101)..(853)
CTHER INFORMATION: brnF
                                                                                                                                                                                                                                                                                                                                        TYPE: DNA
                                                                                                                                                                                                                                                                                                             DRGANISM: Corynebacterium glutamicum
     100.0%;
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     Score 1271;
     DB 15;
  Length 1271;
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Page 8
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| TELEFAX: (206) 682-6031
| INFORMATION FOR SEQ ID NO: 12:
| SEQUENCE CHARACTERISTICS:
| LENGTH: 751 base pairs
| TYPE: nucleic acid
| TYPE: nucleic acid
| TYPE: nucleic acid
| TYPE: nucleic acid
| TYPE: nucleic acid
| TYPE: nucleic acid
| TYPE: nucleic acid
| TYPE: nucleic acid
| TYPE: nucleic acid
| TYPE: nucleic acid
| TYPE: nucleic acid
| TYPE: nucleic acid
| TYPE: cDNA

US-09-030-607-12
| Ouery Match
| Best Local Similarity 59.8%; Pred. No. 0.099;
| Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps 0;
| Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps 0;
| Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps 0;
| Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps 0;
| Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps 0;
| Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps 0;
| Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps 0;
| Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps 0;
| Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps 0;
| Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps 0;
| Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps 0;
| Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps 0;
| Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps 0;
| Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps 0;
| Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps 0;
| Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps 0;
| Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps 0;
| Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps 0;
| Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps 0;
| Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps 0;
| Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps 0;
| Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps 0;
| Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps 0;
| Matches 58; Conservative 0; Mismatches 39; Indels 0; Gaps 0;
| Matches 58; Conservative 0; Mismatches 39; Indels 0;
| Matches 58; Conserva
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PRIOR APPLICATION NUMBER: US 60, PRIOR FILING DATE: 1998-07-27; NUMBER OF SEQ ID NOS: 33142; SEQ ID NO 2761; LNGTH: 2061
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; ORGANISM: Pseudomonas aeruginosa
US-09-252-991A-3205
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US-09-252-991A-2761
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PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
SEQ ID NO 3205
                                                                   Sequence 12, Application US/090209
Patent No. 6261562
GENERAL INFORMATION:
APPLICANT: Xu, Jiangchun
APPLICANT: Dillin, Davin C.
TITLE OF INVENTION: COMPOUNDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
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CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1999-02-18
CURRENT FILING DATE: US 60/074,788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: MATC J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/09/252,991A CURRENT FILING DATE: 1999-02-18 PRIOR APPLICATION NUMBER: US 60/074,788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: DNA ORGANISM: Pseudomonas aeruginosa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ENGTH: 1140
                                    CORRESPONDENCE ADDRESS:
                                                         NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Match 2.9%;
Local Similarity 58.0%;
                                                                                                                                                                                                                                                                   1333
                                                                                                                                                                                                                                                                                                                                             1273 TACTTCCTGATCAACCTCGGCGCCCCCCCCCCCCGCTGATCGGCCTGACTCTCGGCGTC 1332
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                                                                                                                                                                     Application US/09020956
  E: SEED and BERRY LLP 6300 Columbia Center,
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1998-02-18
                                                                                                                                                                                                                                                                                                                                                                                                                                      2.9%;
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                                                                           FOR
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701 Fifth Avenue
                                                                           IMMUNOTHERAPY OF PROSTATE CANCER AND METHODS FO
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; MOLECULE TYPE: CDNA US-09-020-956-12
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: (206) 682-6031 INFORMATION FOR SEQ ID NO:
                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Vc
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/030,607
FILING DATE: 25-FEB-198
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patenth Release #1.0.
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NAME: Maki, David J
REGISTRATION NUMBER: 31,392
REFERENCE/DCCKET NUMBER: 21
TELECOMMUNICATION INFORMATION:
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ATTORNEY/AGENT INFORMATION:
NAME: Maki, David J
REGISTRATION NUMBER: 31,392
REFERENCE/DOCKET NUMBER: 21
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Xu, Jiangchun
APPLICANT: Dillon, Davin C.
TITLE OF INVENTION: COMPOUN
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TOPOLOGY: linear
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6300 Columbia Center, 701 Fifth Avenue
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                    210121.427C3
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US-09-621-976-8976/c
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                                                                                                                                                                                                                                                                                                                                                                                              ; TYPE: DNA
; ORGANISM: Homo sapiens
US-09-621-976-8976
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NUMBER OF SEQ ID NOS:
SEQ ID NO 11418
LENGTH: 1086
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Giordano, J.Y.
TITLE OF INVENTION: ESTS and Encoded Human Proteins.
FILE REFERENCE: GENSET.054PR2
CURRENT APPLICATION NUMBER: US/09/621,976
CURRENT FILING DATE: 2000-07-21
NUMBER OF SEQ ID NOS: 19335
SOFTWARE: Patent.pm
SEQ ID NO 8976
FECTUR. 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 8976, Application US/09621976 Patent No. 6639063 GENERAL INFORMATION:
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Best Local
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TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
FILE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
FILE REPERENCE: 107196.136
CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1999-02-18
CURRENT FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
                                                                                                                                                                                                                                                                                                                        Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 399
                                                                                                                                                                                                                                                                                         Local
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APPLICATION NUMBER: US 60/094,190
APPLICATION 1998-07-27
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                                      669
                                                                                                            242 SAMWRKKWITCWKGRSSWGSRSTGYYAWMYKKSWCTSRKWMYYKKRRKKWRRKCTSTKRT
                                                                                                                                                                                                                                                   2h 3.1%; Score 39; DB 4; Le Similarity 12.6%; Pred. No. 0.0086; 30; Conservative 112; Mismatches 97;
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Sequence 18033, Application US/09621976
Patent NO. 6639063
GENERAL INFORMATION:
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Best Local
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CURRENT APPLICATION NUMBER: US/09/621,976
CURRENT FILING DATE: 2000-07-21
NUMBER OF SEQ ID NOS: 19335
SOFTWARE: Patent.pm
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APPLICANT: Giordanc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Dumas Milne Edwards, J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PEATURE: misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LOCATION: 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PPLICANT: Giordano, J.Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 474
                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             182 CYRGSTYKCWKAYYTKKRRKWTRWTYYYYKSYMSMKKTWRMKTAYYWTKRWKMTRTKWTW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           729 TGCTCGCAGGTTTGAGCTTCACCATTGCTCTTGTGGTAATTCCAGGTCAGGCCCTATTTG
                                                                                                                                                                                                                                                                                                                    582 CCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAAA
                                                                                                                                                                                                                                                                                                                                                                                          522 CGGCCAGGCCGCAGGCTGGTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCACT
 313
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                                                                                                                                                                                                                                                                                      73
                                                                                                                                                                                                                                                                                                                                                        13 YSGNCYYCCMARKWRSYKGGRMYKSMRGSSSCYKSCMMCMMSKYCSGSYKKTTTTTTWAW
                                                                                                                                                                                                                                                                                                                                                                                                                                49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGGCGCTGCTGATCTTCTTGGGTCTGTTGACCATCCGGTACTTCTTCTTGGGAAAGGCT 847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MMKWGKSMWWKWTYYYYYMMKWSKWTYWSMWSCYARKCWRTYAKTYTWNTCWTWGKRT 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CIMCWKCITYWMAGIMMYRYRRYWYYAKRAKWSKRCIWSITICYCMKYMAKKCWSYWWSMS
                                                                                                                                                                                                                                                TIAAGGGCCTCGAGTTCGCCCTTTGCTCTCTTTGTCACGCTGACTTTGGATTCCTGCC 701
                                                                                                                                                                                                                                                                                    WWTTTTKGKWARRRMSGGGKTTYMMCSKKKTKSCMAGRWKGKYYYSRWYYYCYKGACYYM
                                                                                                                                        YMMMMIRAAAAKTYYYCMMSKIMCCMACCCMMCCMRRARSCCMRSCMRSCTYMMCYYYY
                                                                                                                                                                                                                WKRWYCSSCCMMYTKGGGSMWTTTWMMRRRKKSYKRWTKGKKKKKTTWMMAAMCYTTWRS
MCCYYMRKTTYCMMMWYSRWWRGSMWTARGAWWMCYWWYY 352
                                  TCCGGTACTTCTTCGGGAAAGGCTGCTAAATGACAACT 861
                                                                                                      TGGTAATTCCAGGTCAGGCCCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGTTGACCA
                                                                                                                                                                            GAACGAAAAAGCAGATCCCTTCTCTGCTGCTGGCAGGTTTGAGCTTCACCATTGCTCTTG 761
                                                                      MYKGGRMYWWRGGMWKRMYWMYKKKSMWKGSCMWKRAWWARKTTYYTWAWYYTTYYKR
                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative 135;
                                                                                                                                                                                                                                                                                                                                                                                                                                               2.9%;
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Pred. No. 0.045;
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RESULT 12
US-09-252-991A-3205/c
US-09-252-991A-3205/c
; Sequence 3205, Application US/09252991A
; Patent No. 6551795
; GENERAL INFORMATION:

APPLICANT: Marc J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEC
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND
FILE REFERENCE: 107196.136

SEQUENCES RELATING TO AND THERAPEUTICS

PSEUDOMONAS

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US-09-10,---
; Sequence 1266, App.....
; Sequence 1268, 3275
; Patent No. 6583275
; GENERAL INFORMATION:
; GENERAL INFORMATION: Doucette-Stamm and TITLE OF INVENTION: NUCLEIC ACID ANI
ENTEROCOCCUS FA
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US-08-232-463-14
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US-09-107-532A-1266
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
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                           CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/107,532A

FILING DATE: 30-Jun-1998

PRIOR APPLICATION DATA:

APPLICATION DATA:

APPLICATION NUMBER: 60/085,598

PILING DATE: 14 May 1998

APPLICATION NUMBER: 60/051571

FILING DATE: July 2, 1997

ATTORNEY/AGENT INFORMATION:

NAME: Ariniallo, Pamela Deneke

REGISTRATION NUMBER: 40,489

REFERENCE/DOCKET NUMBER: GTC-012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1110
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MEDIUM TYPE: CD/ROM ISO9660
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ADDRESSEE: GENOME THERAPEUTICS CORPORATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELECOMMUNICATION INFORMATION: TELEPHONE: (781)893-5007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         680
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGATTTCTCCTGTATTCTCCTTGTTGTCGCAGTATGTGCAGTCATTACTTTTGCGCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTGAGCTTCACCATTGCTCTTGTGGTAATTCCAGGTCAGGCCCTATTTGCGGCGCTGCTG
                                                                                                                                                                                                                                                                                                                                            STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                            STREET: 100 Beaver Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGGCGGTTCCTTAATCCTTAAGCCCCCTA
                                                                                                                                                                                                                                              OPERATING SYSTEM: <Unknown>
                                                                                                                                                                                                                                                                 COMPUTER:
                                                                                                                                                                                                                                                                                                                                COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                              CITY: Waltham
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 52.4;
                                                                                                                                                                                                                                                                                                                                                                                                                                              and David Bush
AND AMINO ACID SEQUENCES RELATING TO
FAECIUM FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 1;
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                                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
SEQ ID NO 11376
LENGTH: 1038
TYPE: FOR
                                                                                                                                           Query Match
Best Local S
Matches 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Patent No. 6551795
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 11376, Application US/09252991A Patent No. 6551795
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                  FILE REFERENCE: 107196.136
CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1999-02-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: MATC J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION NUMBER: PRIOR FILING DATE: 1998-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INFORMATION FOR SEQ ID NO: 1266: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                    TYPE: DNA ORGANISM: Pseudomonas aeruginosa
                                                                                                                                             Local Similarity hes 77; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY: circular MOLECULE TYPE: DNA (genomic) HYPOTHETICAL: NO ANTI-SENSE: NO ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: misc feature LOCATION: (B) LOCATION 1...768 SEQUENCE DESCRIPTION: SEQ ID NO: 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     152 TTGGGAAAGCTGCCGGATTTCATCCACTAGTCGTCACGTTGATGTCCCTGCTGGTCTATG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          207 TANANACCTCCCTTGCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCT
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                                    CAGCGCCCCTGGGCGCCATCGCGCTCACCACATTGCTGGTGAACTTCCGCCACGTATTCT 428
                                                                                                    TTTCCGGCCTGATTTTCGCGGGGCTCCACCGAAATGCTGGTCATCGCCCTCGTTGTGGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCGTTTTCTCGACCTTTCTAGTCAATTCCCG
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 GTGCCGGGTTCTTTTCGATCATCTTCACCACCCTCCTGACCTCGCAGCACCTGCTCT
                                                                         TGTCCGCCATCGTCTTCGCCGGCGCCCCCAGTTGGTGGCGATCGGCATGCTCAAGGGCG
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                                                                                                                                           3.1%;
llarity 55.0%;
Conservative
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                                                                                                                                           Score 39.2; DB. Pred. No. 0.014; D; Mismatches
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429

ATGCGTTTTCATTCCCGCTG 448

APPLICANT:

PPLICANT: KENNERKNECHT,

NICOLE

INFORMATION:

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                                                                                                                                                                                                                                                                                                                                                   US-09-489-039A-3016
APPLICATI: Gary Breton et. al
APPLICANT: GARY BRETON EN UNICLEIC ACID AND AMINO ACID SEQUENCES RELATING
TITLE OF INVENTION: PUBLICANTON FOR DIAGNOSTICS AND THERAPEUTICS
TILE REFERENCE: 2709.2004001
CURRENT FILING DATE: 2000-01-27
PRIOR APPLICATION NUMBER: US/09/489,039A
CURRENT FILING DATE: 2000-01-27
PRIOR APPLICATION NUMBER: US 60/117,747
PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 14342
SEQ ID NO 3016
LENGTH: 756
TYPE: DNA
                                                                                                                                                                                                                                                                          Sequence 3016, Application US/09489039A
Patent No. 6610836
GENERAL INFORMATION:
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SEQ ID NO 4
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APPLICANT: EGELING, WALTER
TITLE OF INVENTION: NUCLECTIDE SEQUENCE CODING FOR THE EXPORT OF
TITLE OF INVENTION: BRANCHED CHAIN AMINO ACIDS, PROCESS FOR THE
TITLE OF INVENTION: ISOLATION THEREOF AND USE THEREOF
FILE REFERENCE: 21123/265496/MAS
CURRENT APPLICATION NUMBER: US/99/471,803A
CURRENT FILING DATE: 1999-12-23
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR APPLICATION DATE: 1999-10-27
NUMBER: OF SEQ. ID NOS: 12
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LOCATION: (1)..(324)
OTHER INFORMATION: brnE
OTHER INFORMATION: ATCC14752
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ORGANISM: Corynebacterium glutamicum
FEATURE:
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US-08-232-463-14
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Best Local (
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                                                                                                                        APPLICATION NUMBER: EP 91 114
ETILING DATE: 26-AUG-1991
ATTORNEY/AGENT INFORMATION:
NAME: BENT, Stephen A.
REGISTRATION NUMBER: 29,768
REFERENCE/DOCKET NUMBER: 3047
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)836-9300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                      TELEX: 899149
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                        ZIP: 22313-0299
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/232,463
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APPLICANT: FALKNER, F. G.
TITLE OF INVENTION: RECOMBINANT FOWLFOX VIRUS
                                                                                                                                                                                                                                                                   CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 1
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES:
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Local Similarity 52.2%;
nes 130; Conservative
                                                                                              FILING DATE
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LENGTH: 7218 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
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Pred. No. 3.4e-09;
0; Mismatches 119;
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                                                                                                                                  Sequence 2, Application US/09471803A Patent No. 6613545 GENERAL INFORMATION:
APPLICANT: KENNERKNECHT, NICOLE
APPLICANT: SAIM, HERMANN
APPLICANT: BGELING, LOTHAR
APPLICANT: EGELING, LOTHAR
APPLICANT: PERFERLE, WALTER
TITLE OF INVENTION: NUCLECTIDE SEQUENCE CODING FOR THE EXPORT
TITLE OF INVENTION: BRANCHED CHAIN AMINO ACIDS, PROCESS FOR T
TITLE OF INVENTION: ISOLATION THEREOF AND USE THEREOF
FILE REFERENCE: 21123/265496/MAS
CURRENT APPLICATION NUMBER: US/09/471,803A
CURRENT APPLICATION NUMBER: DE 199 51 708.8
PRIOR APPLICATION NUMBER: DE 199 51 708.8
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TYPE: DNA
GARANSM: Corynebacterium glut
FEATURE:
INAME/KEY: CDS
LOCATION: (1).. (753)
OTHER INFORMATION: brnF
OTHER INFORMATION: ATCC14752
US-09-471-803A-2
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SOFTWARE: PatentIn Ver. 2
SEQ ID NO 2
LENGTH: 753
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Best Local Similarity
Matches 753; Conserv
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                                                                       GIGGTAATICCAGGTCAGGCCCTATITGCGGCGCTGCTGATCTTTGGGTCTGTTGACC
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Patent No. 6613545

GENERAL INFORMATION:

APPLICANT: KENNERKNECHT, NICOLE

APPLICANT: SAHM, HERMANN

APPLICANT: SHAM, HERMANN

APPLICANT: PEEFERLE, WALTER

TITLE OF INVENTION: NUCLECTIOE SEQUENCE CODING FOR THE EXPORT OF

TITLE OF INVENTION: SALNCHED CHAIN AMINO ACIDS, PROCESS FOR THE

TITLE OF INVENTION: 180LATION THEREOF AND USE THEREOF

FILL REFERENCE: 21123/265496/MAS

CURRENT APPLICATION NUMBER: US/09/471,803A

CURRENT FILING DATE: 1999-12-23

PRIOR APPLICATION NUMBER: DE 199 51 708.8

PRIOR FILING DATE: 1999-10-27

NUMBER OF SEQ ID NOS: 12

SOFTWARE: Patentin Ver. 2.1

LENGTH: 1271
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LOCATION: (101)..(853)
OTHER INFORMATION: brnF
NAME/KEY: gene
LOCATION: (853)..(1176)
OTHER INFORMATION: brnB
OTHER INFORMATION: ATCC13032
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TYPE: DNA
ORGANISM: Corynebacterium
FEATURE:
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                                                CGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAAAAACCCCCATTGCCCGTTTCTA 480
                                                                                                                                                        TGTGGGCGCAGCGCCCTGGGCGCCATCGCGCTCACCACATTGCTGGTGAACTTCCGCCA
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                                                                                                                       TGTGGGCGCAGCGCCCTGGGCGCCATCGCGCTCACCACATTGCTGGTGAACTTCCGCCA
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seq length: 2000000000
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                                                                                                                                                                                                                             Length DB
                       GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd.
      US-09-471-803A-1
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ALIGNMENTS

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APPLICANT: KENNERKNECHT, NICOLE
APPLICANT: SAHM, HERWAND
APPLICANT: BEGELING, LOTHAR
APPLICANT: BEGELING, LOTHAR
APPLICANT: PERFERLE, WALTER
ITITLE OF INVENTION: NICCLEOTIDE SEQUENCE CODING FOR THE EXPORT OF
ITITLE OF INVENTION: BRANCHED CHAIN AMINO ACIDS, PROCESS FOR THE
ITITLE OF INVENTION: ISOLATION THEREOF AND USE THEREOF
FILE REFERENCE: 21123/265496/MAS
CURRENT APPLICATION NUMBER: US/09/471,803A
CURRENT FILING DATE: 1999-12-23
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR APPLICATION NUMBER: DE 199 51 708.8
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GENERAL INFORMATION:
                                                                                                                      OTHER INFORMATION: brnf
NAME/KEY: gene
LOCATION: (853)..(1176)
OTHER INFORMATION: brnE
OTHER INFORMATION: ATCC14752
                                                                                                                                                                                                                                                                                                                                               TYPE: DNA ORGANISM: Corynebacterium glutamicum FEATURE:
                                                                                                                                                                                                                                                                                     NAME/KEY: gene
LOCATION: (101)
                                                                                                                                                                                                                                                                                                                                                                                                                                             ENGTH:
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Score 1271;
Pred. No. 0;
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121 181

61 61 Н

121 TCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTGGAACCAGATGATAAAGGTTA

180 120

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TCGGCGCTACGAAATCGCGCAAGGTCTAAAAACCTCCCTTGCTGCAGGTTTTGGGCATGTA

Best Loc Matches Query Match

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Similarity

100.0%; larity 100.0%; Conservative 0

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Mismatches

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60 60 0 4.

1 GCGCGATCAATGGAATCTAGCTTCATATATTGCACAATAGCCTAGTTGAGGTGCGCAAAC

TGGCAACAAAACTACCCGGCAATTGTGTGATGATTGTAGTGTGCAAAAAAACGCAAGAGAT GCGCGATCAATGGAATCTAGCTTCATATATTGCACAATAGCCTAGTTGAGGTGCGCAAAC

TGGCAACAAAACTACCCGGCAATTGTGTGATGATTGTAGTGTGCAAAAAAACGCAAGAGAT

Search completed: April 19, 2004, 11:42:05 Job time : 593.9 secs

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07-APR-2000;
03-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present invention provides a number of nucleotide and protein sequences from the Coryneform bacterium Corynebacterium glutamicum. These are useful for identifying the mutation point of a gene derived from a mutant of coryneform bacterium, measuring expression amount and analysing the expression profile or expression pattern of a gene derived from Coryneform bacterium. Coryneform bacterium. Coryneform bacterium and identifying a homologue of a gene derived from coryneform bacterium. Coryneform bacteria are useful for producing amino acids, nucleic acids, vitamins, saccharides and organic acids, particularly L-lysine. The present sequence is a nucleic acid described in the exemplification of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from the European Patent Office
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel polynucleotides derived from Coryneform bacteria, for identifying mutation point of a gene, measuring expression of a gene, analyzing expression profile or pattern of a gene and identifying homologous gene
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Tateishi
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 TCAAAAATAACAAGGATTATTCGCTGCCATTATTCGCGGTGGTATTGGCTCTGGTTTCCG
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                                                                                                                                                                                                                                                                                                                                                                          Sequence
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RESULT 13
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glutamicum

derived ORF SEQ ID

18-DEC-2000; 2000EP-00127688

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Best Local Similarity
Matches 177; Conserv
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                                                                                                                                       C glutamicum coding sequence
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                                                                           Coryneform bacterium; amino acid synthesis; vitamin; saccharide; organic acid synthesis; ds.
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EP1108790-A2
                                      Corynebacterium
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                                                                                                                                         fragment SEQ ID NO: 3408
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RESULT 11
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Best Local Similarity
Matches 324; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present invention provides a number of nucleotide and protein sequences from the Coryneform bacterium Corynebacterium glutamicum. These are useful for identifying the mutation point of a gene derived from a mutant of coryneform bacterium, measuring expression amount and analysing the expression profile or expression pattern of a gene derived from coryneform bacterium. and identifying a homologue of a gene derived from coryneform bacterium. Coryneform bacteria are useful for producing amino acids, nucleic acids, vitamins, saccharides and organic acids, particularly L-lysine. The present sequence is a nucleic acid described in the exemplification of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from the European Patent Office
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel polynucleotides derived from Coryneform bacteria, for identifying mutation point of a gene, measuring expression of a gene, analyzing expression profile or pattern of a gene and identifying homologous gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim
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P-PSDB; AAG90036.
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                                                                                        Corynebacterium
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                                                                                                                     nucleic acid array;
                                                                                                                                                                              (first entry)
                                                                                                                                                 derived ORF SEQ ID 1961.
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                                                                                       glutamicum
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4.4e-93;
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                                             Corynebacterium
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301

TTTGTTGGACTGGTGAATCTTTTC

324

standard; DNA; 715

ВP

(first entry)

1rp encoding

DNA

animal

L-amino mal feed

acid production; supplement; ds.

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gene;

lysine;

isoleucine;

Location/Qualifiers 62..67

glutamicum

13-JUN-2001; 2001DE-01028510

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Best Loc
Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This invention describes a novel nucleic acid array involving Corynebacterium glutamicum polynucleotides. The arrays are used to corynebacterium squatamicum, particularly for monitoring a fermentation process to determine expression levels of C. glutamicum cellular mRNA. Such monitoring particularly differentiates between expression levels of different strains of C. glutamicum and allows the adjustment of different culture and fermentation conditions. ACA00010 ACA02188 represent C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New nucleic acid array useful for Corynebacterium glutamicum during from Corynebacterium glutamicum.
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TTTGTTGGACTGGTGAATCTTTTC
                                                                            GTGGCGCATCTTCTTGGCGGTCGACGCACCTTGTTGAGCGTTGGCGCTGGCACCATCGTT
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                                                     GTGGCGCATCTTCGTTGGCGGTCGACGCACCTTGTTGAGCGTTGGCGCTGGCACCATCGTT
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Pred. No. 4.4e-9;
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This invention describes a novel isolated polynucleotide (I) containing at least one sequence that (i) is 70% identical with a sequence that encodes at least one of 251 amino acid (aa) (3) or 108 aa (5) polypeptides; (ii) encodes a polypeptide at least 70% identical with (3) or (5); (iii) is the complement of (i) or (ii), or (iv) contains at least 15 consecutive bases from (i) - (iii). The invention also describes (a) protein derived from sequences of 753 bp (2) or 324 bp (4); (b) coryneform microorganisms, especially Corynebacterium, transformed with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  L-amino acid production; brnF; coryneform bacterium; leucine;
                                                                                                                                                                                                                                                  Claim 5;
                                                                                                                                                                                                                                                                                               New export genes from coryneform bacteria, useful for increasing fermentative production of branched-chain amino acids.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Corynebacterium
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FORSCHUNGSZENTRUM JUELICH GMBH.
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isoleucine; valine; medicine;
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   one or more (I), where these are replicative DNA; (c) production of branched-chain L-aa by fermentation of coryneform bacteria in which the brnE and/or brnF genes (or equivalent sequences) are amplified, especially overexpressed; and (d) method for isolating the brnE and/or brnF genes. (I) is used for transformation of coryneform bacteria being used for fermentative production of branched-chain amino acids, specifically leucine, isolaucine and valine, which are useful in medicin and animal nutrition. (I) can also be used as source of primers and probes for isolation of related sequences. Transformation with (I) increases yield of branched-chain amino acids. This sequence encodes the method of the invention
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                                                                                        GTGGCGCATCTTCTTGGCGGTCGACGCACCTTGTTGAGCGTTGGCGCTGGCACCATCGTT
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 TTTGTTGGACTGGTGAATCTTTTC
                                                                  GTGGCGCATCTTCTTGGCGGTCGACGCACCTTGTTGAGCGTTGGCGCTGGCACCATCGTT
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07-APR-2000;
03-AUG-2000;
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Tateishi
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                                                                                                                                                                                                                         This invention describes a novel isolated nucleic acid (I) from coryneform bacteria used for the fermentative production of selected L-amino acids, by fermenting the amino acid-producing coryneform in which at least the 1rp gene has been weakened or amplified, then isolating amino acids that have accumulated in the medium or cells. (I) is used to transform coryneforms for production of L-amino acids, specifically lysine and isoleucine, which are used in medicine and particularly as animal feed supplement. It may also be used as probes and primers for isolating related sequences. Regulating expression of (I) improves production of amino acids, especially of L-lysine. This sequence encodes a fragment of the Corynebacterium glutamicum 1rp protein which is used in the method described in the invention
                                                                                                                                                                                                   Sequence 397 BP; 96 A; 100 C; 104 G; 97 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2001-292927/31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               29-SEP-2000; 2000EP-00121159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Corynebacterium glutamicum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Fermentation; L-amino medicine; animal feed
                                                                                                                                                                                                                                                                                                                                                                                                       Example 3; Page 16; 22pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                               New lrp gene from coryneform bacteri increased synthesis of amino acids,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      05-OCT-1999;
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                                                                                                                                                              Similarity
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                                                                                                            AATGGAATCTAGCTTCATATATTGCACAATAGCCTAGTTGAGGTGCGCAAACTGGCAACA 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTTCTTGGGAAAGGCTGCTAAA 564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTTCTTCTTGGGAAAGGCTGCTAAA 853
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCCAGGTCAGGCCCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGTTGACCATCCGGTA
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GCCTGGAGGTGTCGCCATCCAAGGCAGCCCTGGAACCAGATGATAAAGGTTATCGGCGCT
                                                             AATGGAATCTAGCTTCATATATTGCACAATAGCCTAGTTGAGGTGCGCAAACTGGCAACA
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                                                                                                                                                           28.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      acid production; lrp gene; lysine; isoleucine;
supplement; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Puehler
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DNA fragment SEQ ID 7
                                                                                                                                                 0
                                                                                                                                               Score 365.6; DB 4;
Pred. No. 2.2e-106;
0; Mismatches 4;
                                                                                                                                                                                                                                                                                                                                                                                                                               bacteria, used to prepare t
acids, particularly lysine
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                                                                                                                                                                            DB 4;
                                                                                                                                                                                                    0 U; 0 Other;
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                                                                                                                                                                         Length
                                                                                                                                                 Indels
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                                                                                                                                               Gaps
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AATGGAATCTAGCTTCATATATTGCACAATAGCCTAGTTGAGGTGCGCAAACTGGCAACA

Matches 368; Query Match Best Local (

Similarity

28.8**%**; 98.9**%**;

Score 365.6; DB 4; Pred. No. 3.2e-106; Mismatches

4.

Indels Length

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Gaps

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Conservative

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Sequence

778 BP; 175 A; 208 C; 207 G; 188 T; 0 U; 0 Other;

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                                                                                                                                                                                                                                                                                                                                                      This invention describes a novel isolated nucleic acid (I) from coryneform bacteria used for the fermentative production of selected L-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New 1rp gene from coryneform bacteria, used to prepare transformants with increased synthesis of amino acids, particularly lysine and isoleucine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fermentation; L-amino acid production; medicine; animal feed supplement; ds.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 3; Page 17; 22pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Moeckel B,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          29-SEP-2000; 2000EP-00121159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           11-APR-2001.
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                     04-JUN-2003
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                                                                                                     ACA01969
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nucleic acid array; derived ORF SEO ä fermentation; culture; g

13-JUN-2001; 2001DE-01028510

æ Pfefferle Σ, Bathe 'n Huthmacher

monitoring mRI fermentation,

mRNA expression of on, comprising nucleic

acid

Claim 1; Page 647; 709pp; German.

This invention describes a novel nucleic acid array involving Corynebacterium glutamicum polynucleotides. The arrays are used to analyse C. glutamicum, particularly for monitoring a fermentation process to determine expression levels of C. glutamicum cellular mRNA. Such monitoring particularly differentiates between expression levels of different strains of C. glutamicum and allows the adjustment of different culture and fermentation conditions. ACA010ws the adjustment C. glutamicum derived polynucleotides described in the disclosure of the invention

91 Ā. 167 ů 144 ص ص 162 T; 0 U; 0 Other

Query Match Best Local Similarity 99.8%; Pred. No. 1.8e-166; Matches 564; Conservative 99.8%; Pred. No. 1.8e-166; Matches 564; Conservative 99.8%; Pred. No. 1.8e-166; 289 ATGGTGGGCAGCCCCACTGTTTTCCGGCCTGATTTCGCGGGGTCCACCGAAATGCTGGT 348; 1 ATGGTGGGCAGCCCACTGTTTTCCGGCCCTGATTTTCGCGGGGTCCACCGAAATGCTGGT 408; 249 CATCGCCCTCGTTGTGGGCGCA-CGCCCTGGGGCCCATCGCGCTCACCACATTGCTGGT 119 409 GAACTTCCGCCACGTATTCTATGCGTTTTCATTCCGGCCCACCACATTGCTGGT 119 409 GAACTTCCGCCACGTATTCTATGCGTTTTCATTCCGGCTACCACACTTGCTGGT 119 469 TGCCCGTTTCTATTCGGTTTTCATTCATTCCACCGAAAACCCCAT 179 469 TGCCCGTTTCTATTCGGTTTTCACTCACTGAACGCAATGCTCACTGCGGCCAG 528 529 GCCCGCAGGTTTCTATTCGGCGTTTTCATTCCACCACAATGCTCACTGCGGCCAG 528 529 GCCCGCAGGTTTCTATTCGGCGTTTTCATTCCAAAGCCCAT 179 529 GCCCGCAGGTTTCTATTCGGCGTTTTCAATGCAAATGCAAATGCCCAT 179 529 GCCCGCAGGTTCTACCGGAGTTGCGAATTCCAAATGCAAATACCCCAT 179 529 GCCCGCAGGCTGGTCGACGGAGTTATCTCAAATGCAAATACCGTTCACTCCTACTG 529 529 GCCCGCAGGTTCCACCGGAGTGGCGAATTCCAAATGCAAATACCGTTCACTCCTACTG 529 529 GCCCGCAGGTTCCACCGGAGTGGCGAATTCCAAATGCAAATACCGTTTCAATTCACTCCTACTG 529 529 GCCCGCAGGTTCCACCGGAGTGGCGAATTCCAAATGCAAATACCGTTTCAATTCACTCCTACTG 529 529 GCCCGCAGGTTCCACCGGAGTGGCGAATTCCAAATGCAAATACCGTTTTGAAATTAAGGG 530 GCTATTCGGCGTTCTACCGGAATGCCAAATGCAAATTCCTTTTTGAAATTAAGGG 540 CCTCGAGTTCGGCCTTTTGCTCCTTTTGTCACGCTTATTCCTACTTCCTTTTTGAAATTAAGGG 550 AAAGCAAATCCCTTTTGCTCCTCTTTTGTACGCTTTTGGAATTCCTTTTGAAATTAAGGG 561 AAAGCAAATCCCTTTCTTGCTCCTCTTTTTGTACCTTTTTGAAATTCCTTTTGAAATTAAAGGA 561 AAAGCAAATCCCTTTCTTCTCTCTTTTGTACACCTCTTTTGAAATTCCTTTTGAAATTAAAGA 562 AAAAGCAAATCCCTTTCTCTCTCTTTTGTACACCTTTTAAACCATTTCCTTTTTGAAATTAAAGA 563 AAAAGCAAATCCCTTTTTTTTTTTTTTTTTTTTTTTTTT	유 성	B 8	유 성	B 성	B 8	유 왕	음 성	문왕	
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02-MAY-2001

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This invention describes a novel isolated polynucleotide (I) containing can at least one sequence that (i) is 70% identical with a sequence that CC encodes at least one of 251 amino acid (aa) (3) or 108 aa (5) coplypeptides; (ii) encodes a polypeptide at least 70% identical with (3) cor (5); (iii) is the complement of (i) or (ii), or (iv) contains at least 70% consecutive bases from (1)-(iii). The invention also describes (a) coryneform microorganisms, especially Corynebacterium, transformed with coryneform microorganisms, especially Corynebacterium, transformed with cone or more (I), where these are replicative DNA; (c) production of coryned-chain L-aa by fermentation of coryneform bacteria in which the brnached-chain in L-aa by fermentation of coryneform bacteria in which the CC brnached-chain in L-aa by fermentation of coryneform bacteria in which the CC brnached-chain production of coryneform bacteria in which the CC brnached-chain production of branched-chain amino acids, coryneform bacteria mand/or coryneform bacteria peing corynebacterium solation. (I) can also be used as source of primers and corynebacterium solation of related sequences. Transformation with (I) corynebacterium and condes the corynebacterium glutamicum arCC 14752 brnF protein described in the corynebacterium glutamicum arCC 14752 brnF protein described in the corynebacterium condes the invention
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FORSCHUNGSZENTRUM JUELICH GMBH
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ARCCCATTGCCCGTTTCTATTCGGTTTTCGCGCTTATCGACGAAGCCTACGCAGTCACT
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The present invention provides a number of nucleotide and protein sequences from the Coryneform bacterium Corynebacterium glutamicum are useful for identifying the mutation point of a gene derived from mutant of coryneform bacterium, measuring expression amount and anal

analysing

the expression profile or expression pattern of a gene derived from Coryneform bacterium, and identifying a homologue of a gene derived from coryneform bacterium. Coryneform bacteria are useful for producing amino

Novel polynucleotides derived from Coryneform bacteria, for identifying mutation point of a gene, measuring expression of a gene, analyzing expression profile or pattern of a gene and identifying homologous gene

Claim 8; SEQ ID NO 289; 246pp + Sequence Listing;

English

gene.

P-PSDB; AAG90035. WPI; 2001-376931/40.

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Ikeda M, Ozaki A;
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Best Local Similarity 100.
Matches 1271; Conservative
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03-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Novel polynucleotides derived from Coryneform bacteria, for identifying mutation point of a gene, measuring expression of a gene, analyzing expression profile or pattern of a gene and identifying homologous gene.
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Tateishi N,
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                                        CGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAAAACCCCCATTGCCCGTTTCTA 277208
                                                                                                                       TCGGCGCTACGAAATCGCGCAAGGTCTAAAAACCTCCCTTGCTGCAGGTTTGGGCATGTA 240
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                                                                                CGTATTCTATGCGTTTTCATTCCCGCTGCATGTGGTCAAAAACCCCATTGCCCGTTTCTA
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Senoh A, Ikeda M, Ozaki A;
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1tive 0;
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<pre>imicum brnF DNA. acid production; brnF; brnB; branched-chain amino acid; production; leucine; isoleucine; valine; medicine; province of the control of</pre>	1 (first	~~	standard; DNA; 753 BP.	CAGACAGGCT 12/1 	TGCCCTCAATTTGAAGGGGATGCGGATTTTTTAAGGAACCTAGAAAAAGGCTTAA	дсатдссстсаатттдаадддатдсддаттттттааддаадстадаадад	GGCACCATCGTTTTTGTTGGACTGGTGAATCTTTTCTAAACTGCATAAATAA	GCGATTACAGTGGTGGCGCATCTTCTTGGCGGTCGACGCACCTTGTTGAGCGTTGGCGCTTGTTGAGCGTTGGCGCTTGTTGAGCGTTGGCGCTTGTTACAGTGGTGGCGCATCTTCTTGGCGGTCGACGCACCTTGTTGAGCGTTGGCGCT		TCAACGTTTCGCAGCAATGCGATAGATCTGAAGACTCTAACCTTTGGTCTCATTGCCGTT	CAATTTGTGGGCAAAATGGCGATGTGGATGCCAGCAGGAATCCTTGCCATTTTGACCGCA	GTCATTACTTTTGCGCTCCGGGCGGTTCCGTTCTTAATCCTTAAGCCCCTACGTGAATCA	AAAGGCTGCTAAATGACAACTGATTTCTCCTGTATTCTCCCTTGTTGTCGCAGTATGTGCA	CCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGTTGACCATCCGGTACTTCTTCTTGGG	TTCTCTGCTGCTGCAGGTTTGAGCTTCACCATTGCTCTTGTGGTAATTCCAGGTCAGGC	CCTTIGCTCTCTTTGTCACGCTGACTTTGGATTCCTGCCGAACGAA	TCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAAATTAAGGGCCTCGAGTTCGC	GICGGCGTGGCGACTIAICTCAATGCAAATAGCGTITCACTCCIACTGGGTAITCGGCGG	
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This invention describes a novel isolated polynucleotide (I) containing call least one sequence that (i) is 70% identical with a sequence that (c) encodes at least one of 251 amino acid (aa) (3) or 108 aa (5) copolypeptides; (ii) encodes a polypeptide at least 70% identical with (3) cor (5); (iii) is the complement of (i) or (ii), or (iv) contains at least (c) focusecutive bases from (1)-(iii). The invention also describes (a) coryneform microorganisms, especially forynebacterium, transformed with (c) coryneform bacteria per these are replicative DNA; (c) production of coryneform bacteria in which the brnE and/or brnF genes (or equivalent sequences) are amplified, (c) especially overexpressed; and (d) method for isolating the brnE and/or brnF genes (or equivalent sequences) are amplified, (c) used for fermentative production of brnE and (a) method for isolating the brnE and/or specifically leucine, isolaucine and valine, which are useful in medicine and animal nutrition. (I) can also be used as source of primers and corpresses yield of branched-chain amino acide. This sequences the corynebacterium glutamicum ATCC 13032 brnF and brnE proteins described in the method of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 1271; Conserv
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                                                                                                                                            Coryneform bacterium; amino organic acid synthesis; ds.
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CC at least one sequence that (i) is 70% identical with a sequence that CC encodes at least one of 251 amino acid (aa) (3) or 108 aa (5) crospeptides; (ii) encodes a polypeptide at least 70% identical with (3) crospectides; (ii) encodes a polypeptide at least 70% identical with (3) crospective bases from (i) (ii) or (ii) or (iv) contains at least 70% consecutive bases from (i) (iii). The invention also describes (a) crospection derived from sequences of 753 bg (2) or 324 bg (4); (b) coryneform microorganisms, especially Corynebacterium, transformed with CC one or more (I), where these are replicative DNA; (c) production of CC branched-chain I-aa by fermentation of coryneform bacteria in which the CC brnE and/or brnP genes (or equivalent sequences) are amplified, and (or brnP genes (1) is used for transformation of coryneform bacteria being CC specially overexpressed; and (d) method for isolating the brnE and/or CC used for fermentative production of branched-chain amino acids, specifically leucine, isoleucine and valine, which are useful in medicine coryneform special of branched-chain amino acids. This sequence of primers and corynebacterium glutamicum ATCC 14752 brnP and brnE proteins described in the method of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 1271;
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GTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCACTCCTACTGGGTATTCGGCGG
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                                                                                     TCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAAATTAAGGGCCTCGAGTTCGC
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27-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                 L-amino acid production; brnF; brnB; branched-chain amino ac
coryneform bacterium; leucine; isoleucine; valine; medicine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            05-SEP-2001 (first entry)
                                      11-OCT-2000; 2000EP-00122057.
                                                                                                                                EP1096010-A1.
                                                                                                                                                                                                                                                                                                                                                 Corynebacterium glutamicum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C. glutamicum DNA encoding brnF and brnE
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ALIGNMENTS

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RESULT 1
AAH21109
L-amino acid production; brnF; coryneform bacterium; leucine; animal nutrition; ds.
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                                New export genes from coryneform bacteria, useful for increasing fermentative production of branched-chain amino acids.
                                                          WPI; 2001-391595/42.
P-PSDB; AAB86247, AAB86248.
                                                                                                                                27-OCT-1999;
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                                                                                                                                                                                   EP1096010-A1.
                                                                                                                                                                                                                                                                      Corynebacterium glutamicum
                Claim 4 (i); Page 13; 23pp; German.
                                                                                    Kennerknecht N,
                                                                                                                                                11-OCT-2000; 2000EP-00122057
                                                                                                     (DEGS )
                                                                                                     DEGUSSA AG.
FORSCHUNGSZENTRUM JUELICH GMBH.
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/product= "brnF"
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This invention describes a novel isolated polynucleotide (I) containing

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69 AAACTACCCGGCAATTGTGTGATGATTGTAGTGTGCAAAAAACGCAAGAGAGTTCATTCA	9 ANTGGAATCTAGCTTCATATATTGCACAATAGCCTAGTTGAGGTGCGCAAACTGGCAACA 68	atch 28.8%; Sc cal Similarity 98.9%; Pr 368; Conservative 0;	0 0	Mocckel,B., Pfefferle,W., Puehler,A., Kalinowski,J. and Bathe,B. Nucleotide sequences coding for the lrp gene L Patent: EP 109093-A 7 11-APR-2001; Degussa AG (DE) Location/Qualifiers	Corynebacterium glutamicum SM Corynebacterium glutamicum Bacteria, Actinobacteria, Actinobacteridae, Actinomycetales, Corynebacterineae, Corynebacteriaceae, Corynebacterium.	5 /C AX137083 397 bp DNA linear PAT 30-MAY-2001 ON Sequence 7 from Patent EP1090993. N AX137083 GI:14273428	21 ATCCGGTACTTCTTGGGAAAGGCTGCTAAA 7	21 AFCCGGTACTTCTTGTGGGAAAGGCTGCTAAA 853	761 GTGGTAATTCCAGGTCAGGCCCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTTGACC 820 [CGAAAAAGCAGATC	AACGAAAAAGCAGATCCCTTCTCTGCTGCTGCAGGTTTGAC	641 ATTAAGGGCCTCGAGTICGCCCTTTGCTCTCTTTGTCACGCTGACTTTGGATTCCTGC 700	TGAA 5	64 A VELLEGATORIA GENERAL CONTRACTORIA CONTR	521 GCGGCCAGGCCGCAGGCTGGTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCAC 580	61 AACCCCATTGCCCGTTTCTATTCGGTTTTCGCGCTTATCGACGAAGCCTACGCAGTCJ	1 AACCCCATTGCCCGTTTCTATTCGGTTTTTCGCGCTTATCGACGAAGCCTACGCAGTCACT 52	401 TIGCIGGIGAACTICCGCCACGTATICTATGCGTTITCATTCCCGCTCCATGTGGTCAAA 460	241 Arderrédereare de la respecto de la constant de la respector de la respecto d	341 ATGCTGGTCATCGCCCTGGTTGTGGGGGGGGGGGCGCCTGGGGGGGCCATCGCGCTACCACA 400	

Search completed: April 19, 2004, 18:30:05 Job time: 5391 secs

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Best Local Similarity
Matches 753; Conserv
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Nucleotide sequence encoding the discharge of branched amino
method of isolating the same and utilization thereof

Patent: JP 2001169788-A 2 26-JUN-2001;
DEGUSSA HIELS AG,FORSCHUNGSZENTRUM JUELICH GMBH
OS Corynebacterium glutamicum ATCC14752
PN JP 2001169788-A/2
PD JC 2001169788-A/2
PD 26-JUN-2001
PF 24-OCT-2000 JP 2000324315
PR 27-OCT-1999 DE 19951708.8
PI NICOLE KENNERUKUNEHITO,HERMANN SAHM,LOTHAR EGGERING,WAL
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27-OCT-1999 DE 19951708.8
NICOLE KENNERUKUNEHITO, HERMANN SAHM, LOTHAR EGGERING, WALTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C12N15/09, C07K14/34, C12N1/21, C12P13/06, C12P13/06, C12P13/08// (C12N15/09, C12R1:15), (C12N1/21, C12R1:15), (C12P13/06, C12R1:15), C12N15/00,
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/mol_type="genomic DNA"
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       GGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGGCCTGATTTTCGCGGGGCTCCACCGAA
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Query Match
Best Local Similarity
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C12N1/15,
C12N1/19,C12N1/21,C12N5/10,C12N9/00,C12N9/02,C12P7/40,C12P13/PC
C12N1/19,C12N1/21,C12N5/10,C12N9/00,C12N9/02,C12P7/40,C12P13/PC
C12N19/00,C12P19/34,C12P21/02,C12Q1/37,C12Q1/68,G01N33/53, PC
G01N33/566,G01N33/68,G01N37/00//C12P21/08,(C12N1/21,C12R1:15),
PC
G01N33/569,G01N33/68,G01N37/00//C12P21/08,(C12N1/21,C12R1:15),
PC
G1N33/56,G01N33/68,G01N37/00//C12P21/08,(C12N1/21,C12R1:15),
PC
G1N33/56,G01N33/68,G01N37/00//C12P21/08,(C12N1/21,C12R1:15),
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PC
G1N33/60,G01N33/60,G01N37/00//C12P13/08,(C12N1/21,C12R1:15),
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G1N33/60,G01N33/60,G01N37/00//C1
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Nakagawa,S., Mizoguchi,H., Ando,S., Hayashi,M., Ochi
Nakagawa,S., Tateishi,N., Senoo,A., Ikeda,M. and Ozaki,
Novel polymucleotide
Patent: JP 2002191370-A 289 09-JUL-2002;
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                                                                                                                                                   GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAACCTCCCTT
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SATOSHI NAKAGAWA, HIROSHI MIZOGUCHI, SEIKO ANDO, MIKIO HAYASHI,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
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/mol_type="genomic DNA"
/db_xref="taxon:32644"
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CDS	AUTHORS TITLE JOURNAL FEATURES BOUICE	VERSION KEYWORDS SOURCE ORGANISM REFERENCE	RESULT 12 AX137710 LOCUS DEFINITION ACCESSION	Qy Db	D Qy	d d V	B &	B 8	유 성	Å Å	8 8	A 48	Qy dd
/organism="Corynebacterium glutamicum" /mol_type="unassigned DNA" /db_xref="caxon:1718" /note="ATCC14752" 1. >>53 /note="unnamed protein product; brnF" /codon_start=1 /transf_table=11 /protein_id="CAC39925.1" /db_xref="gatrENMEL:CAC39925" /translation="MOKTQEIHSSIEVSPSKAALEPDDKGYRRYEIAQGLKTSLAAGL GMYPIGIAFGLLVIQYGYEWWAAPLFSGLIFAGSTEMLVIALVVGAAPLGAIALTTIL	Kennerknecht, N., Eggeling, L., Sahm, H. and E Nucleotide sequences coding for branched-ch proteins, method for isolating them and the Patent: EP 1096010-A 2 02-MAY-2001; Degussa AG (DE); FORSCHUNGSZENTRUM JUELICH Location/Qualifiers 1. 753	Corynebacterium glutamicum (Corynebacterium glutamicum (Corynebacterium glutamicum Bacteria; Actinobacteria; Actinobacter Corynebacterineae; Corynebacteriaceae;	AX137710 Sequence 2 from Patent AX137710	821 ATCCGGTACTTCTTGGGAAAGGCTGCTAAA 853	761 GTGGTAATTCCAGGTCAGGCCCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGTTGACC 820	701 CGAACGAAAAAGCAGATCCCTTCTCTGCTGCTGCAGGTTTGAGCTTCACCATTGCTCTT 760	641 ATTAAGGGCCTCGAGTTCGCCCTTTGCTCTCTCTTTGTCACGCTGACTTTGGATTCCTGC 700	581 TCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAA 640	521 GCGGCCAGGCCGCAGGCTGGTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCAC 580			ATGCTGGTCATCGCCCTCGTTGTGGGCGCAGCGCCCTGGGCGCCATCGCGCTCACCACA	281 GGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGCCTGATTTTCGCGGGCTCCACCGAA 340
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RESULT 13 BD014992 LOCUS DEFINITION ACCESSION VERSION KEYWORDS SOURCE ORGANISM	9 9 9	y y d	8 8 8	- 4d	δ δ	상	D OY	₽ Q	dd Qy	F 8	Db Q	Query Mat Best Loca Matches	NIBIAO
BD014992 Nucleotide sequence method of isolating BD014992 I GI:22555 JP 2001169788-A/2. unidentified unclassified.	761 GIGGINATICCAGGICAGGCCCIATITICGGCGCIGCIGATCITCIGGGCCIGCIGAGCCGCIGCIGATCITCIGGGCCTGTTGACC 661 GIGGINATICCAGGICAGGCCCTATITIGCGGCGCTGCTGATCTTCTTGGGTCTGTTGACC 821 ATCCGGTACTTCTTCTTGGGAAAGGCTGCTAAA 853		581 TCCTACTGGGTATTCGGCGGTCTCACCGGAGTGGCGATCGCAGAGTTGATTCCTTTTGAA	521 GCGGCCAGGCCGCAGGCTGGTCGGCGTGGCGACTTATCTCAATGCAAATAGCGTTTCAC 	461 AACCCCATTGCCCGTTTCTATTCGGTTTTCGCGCTTATCGACGAAGCCTACGCAGTCACT			9—9 9—9 9—9	221 GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTTGGTTATTCAATAC 	161 GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAACCTCCCTT	101 GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG	cch 59.2%; al Similarity 100.0% 753; Conservative	VNERHVFYAFSFELHVVKNEIARFYSVFALIDEAYAVTAARPAGWSAWRLISMQIAFH SYWVFGGLTGVAIAELIFFEIKGLEFALCSLFVTLTLDSCRTKKQIPSLLLAGLSFTI ALVVIPGQALFAALLIFLGLLTIRYFFLGKAAK"

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Kennerknecht, N., Sahm, H., Eggeling, L. and Pfefferle, W.
Kennerknecht, N., Sahm, H., Eggeling, L. and Pfefferle, W.
Nucleotide sequences coding for the export of branched chain
acids, process for the isolation thereof and use thereof
patent: US 6613545-A 2 02-SEP-2003;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Unknown
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                                                                                                           GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC
                                                  GGCTACGAATGGTGGGCAGCCCCACTGTTTTCCGGCCTGATTTTCGCGGGCTCCACCGAA
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ilarity 100.0%;
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/mol_type="genomic
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AX120373
AX120373.1
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patent: EP 1108790-A 289 20-JUN-2001;
KYOWA HAKKO KOGYO CO., LTD. (JP)
Location/Qualifiers
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                                                                                                                                                                                 Similarity
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                                                                                                                              GTGCAAAAAACGCAAGAGATTCATTCAAGCCTGGAGGTGTCGCCATCCAAGGCAGCCCTG
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                                                       GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAAACCTCCCTT
                                                                          GAACCAGATGATAAAGGTTATCGGCGCTACGAAATCGCGCAAGGTCTAAAAACCTCCCTT
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                   GCTGCAGGTTTGGGCATGTACCCGATTGGTATTGCGTTTGGTCTCTTGGTTATTCAATAC
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                                                                                                                                                                                                                                    /organism="Corynebacterium
/mol_type="unassigned DNA"
/db_xref="taxon:1718"
                                                                                                                                                               59.2%; 50-
100.0%; Prr
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Pred. No. 3.3e-196;
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Ikeda, M. and Ozaki, A.
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Export of L-isoleucine from Corynebacterium glutamicum: a two-gene-encoded member of a new translocator family J. Bacteriol. 184 (14), 3947-3956 (2002)
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Corynebacterium glutamicum
Bacteria, Actinobacteria, Actinobacteridae, Actinomycetales,
Corynebacterineae, Corynebacteriaceae, Corynebacterium.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (07-NOV-2001) IBT-1, Juelich 52425, Germany Location/Qualifiers
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Kennerknecht, N., Egg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kennerknecht, N., Sahm, H., Yen, M.R., Patek, M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Direct Submission
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 acid export pro
/codon_start=1
/trans1_table=:
                                             /gene="lrp"
1538. 1993
/gene="lrp"
                                                                                                                        /transT_table=11
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/protein_id="AsM46686.1"
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GMYPIGIAFGLLVIQYGYEMWAAPLFSGLIFAGSTEMLVIALVVGAAPLGSIALTTLL
VNFRHVFYAFSFPLHVVKNPIARFYSVFALIDEXYAVTAARPAGWSAWRLISMQIAFH
SYMVFGGLTGVAIAELIPFEIKGLEFALCSLFVTLTLDSCRTKKQIPSLLLAGLSFTI
/note="Lrp"
/codon_start=1
/transl_table=11
                                                                                                                                                                                                                                                                                                          complement (708. .1463)
                                                                                                                                                                                                                                                                                                                        complement (708.
/gene="brnf"
                                                                                                                                                                                                                                                                                                                                                                        /product="BrnE"
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/db_xref="GI:21311380"
/tab_xref="GI:21311380"
/translat.on="WTTDFSCTLLVVAVCAVITFALRAVPFLILKPLRESQFVGKMAM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          complement (385 .711)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Corynebacterium
/mol type="genomic DNA"
/db xref="taxon:1718"
complement (385. .711)
/gene="brnE"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             note="LIV-E transporter acid export protein"
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                                                                                                             ALVVIPGQALFAALLIFLGLLTIRYFFLGKAAK"
                                                                                                                                                                                                                                                                                           gene="brnF"
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                                                                                                                        CCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGTTGACCATCCGGTACTTCTTCTTGGG
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                                                                                                   CCTATTTGCGGCGCTGCTGATCTTCTTGGGTCTGTTGACCATCCGGTACTTCTTCGGG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 1260;
Pred. No. 0;
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SPDYFVRIGVADLEAYEQFLSSHIQTVPGIAKISSRFAMKVVKPARPQV" Length 2105; Indels ۲, Gaps 1324 1384 180 1444 1504 120 1264 60 300 ۲,

Query Match Best Local Similarity 100.0%; Score 1271; DB 6; Length 349980; Best Local Similarity 100.0%; Pred. No. 0; Matches 1271; Conservative 0; Mismatches 0; Indels 0; Gaps 0; Matches 1271; Conservative 0; Mismatches 0; Indels 0; Gaps 0; 1 GCGCGATCAATGGAATCTAGCTTCATATATTGCACAATAGCCTAGTTGAGGTGCGCAAAC 60	AX120085 AX1	OY 841 AAAGCTGCTAAATGACAACTGATTTCTCCTGTATTGTCGCAGTATGTGCA
Qy 1021 TCAACGTTTTGCAGCAATACGATAGATCTGAAGACTCTAACCTTTGGTCTCATTGCCGTT 1080	277329 TCTCACCGAATGGCAATGCGTAATTGAAATTAACGCCTTGAAATTGAAATTGAAATTGAAATTGAAATTGAAATTGAAATTGAAATTGAAATTGAAATTGAAATTGAAATTGAAATTGAAGTCCC 661 CCTTTGCTCTCTTTGTCACGCTGACGTTTGGATTCCTGCCGAAACGAAAAAGCAGATCCC 721 TCTCTGCTGCTGCTGCTGACGCTTGACGATTCCTGCCGAACGAA	181 TCGGCGCTAGGAGGTGCGCCATCCAAGGCAGCCTGGAACCAGATGATAAAGGTTA 181 TCGGCGCTACGAAATCGCGCAAGGTCTAAAAACCTCCCTTGCTGCAGGTTTGGGCATGTA 181 TCGGCGCTACGAAATCGCGCCAAGGTCTAAAAACCTCCCTTGCTGCAGGTTTGGGCATGTA 261 CCCGATTGGTATTGCGTTTGGTCTTTGGTTATTCAATACGGCTACGAATGGTGGGCATGTA 261 CCCGATTGGTATTGCGTTTGGTCTTTGGTTATTCAATACGGCTACGAATGGTGGGCATGTA 262 CCCGATTGGTATTCCGGCCTGATTTTCGCGGGGTCACCACTACGGCTACGAATGGTGGGCAGC 301 CCCACTGTTTTCCGGCCTGATTTTCGCGGGCTCACCACAATACGGCTACGAATGGTGGCCCTCGT 361 TGTGGGCGCAGCGCCCTGGTTTTCGCGGGCTCACCACATTGCTGGTAACTTCCGCCT 361 TGTGGGCGCAGCGCCCTTGGGGCCCATCGCGCTCACCACATTGCTGGTAACTTCCGCCA 471 CGTATTCTATGCGGCCTTGGGGCCCATCGCCTCACCACATTGCTGGTAACTTCCGCCA 481 TTCGGTTTTCGCGGCTTATCCGACGAAGCCTACGAGCACGCAAAAACCCCATTGCCGCTTCTA 481 TTCGGTTTTCGCGGCTTATCGAAGACCTACGCAGTCACCACACTTGCGGCCAGGCCGGCAGGCTG 541 GTCGGCTTATCGCGCTTATCGAAGCCAAAAAACCCCATTGCGGCCAGGCCGGAGCTTG 541 GTCGGCGTGGGGGACTTATCCAACGAAATGCGAGTTAACTCCTACTGAGGTATTCCGCGG 541 GTCGGCGTGGGGGACTTATCCTAAAATGCAAATAACCCCATTTCCTACTGCGGCAGGTG 541 GTCGGCGTGGGGGACTTATCCTAATGCAAAATGAGTTTAACGGCCTACTGCGGGTATTCCGCGG 601 TCTCACCGGAGTGGCGATCGCAAGTTGATTCCTACTACTACTGGGGCTCGAGTTTCCGCGG 601 TCTCACCGGAGTGGCGATCGCAAGATTGAAAATTTAAGGGCTCGAAGTTCCGCGG 601 TCTCACCGGAGTGGCGATCGCAAGATTGCTAAAATTTAAGGGCTCGAAGTTCCGCGG 601 TCTCACCGGAGTGGCGATCGCCAAGTTGCAAAATTAAAGGGCTCGAAGTTCCGCGGG 601 TCTCACCGGAGTGGCGATCGCCAAGTTGATTCCGGCGGGGGGGG

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Best Local
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                                                                                                                                                                                                                                                                 Submitted (24-MX-2002) Satoshi Nakagawa, Kyowa Hakko Kogyo Co. Ltd., Tokyo Research Laboratories; 3-6-6, Asahi-machi, Machida, Tokyo 194-8533, Japan (E-mail:snakagawa@xanagen.com, Tel:81-44-829-3031, Fax:81-48-813-1651)
This sequence is conducted by collaboration of Kyowa Hakko Kogyo Co. Ltd. And Kitasato University.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Corynebacterium glutamicum ATCC 13032
Corynebacterium glutamicum ATCC 13032
Bacteria, Actinobacteria, Actinobacteridae, Actinomycetales,
Corynebacterineae, Corynebacteriaceae, Corynebacterium.
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AP005274.1 GI:21
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Corynebacterium glutamicum
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/protein id="BAB97395.1"
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/gene="Cg10004"
/note="TIGR00611:recf: RecF
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/db_xref="GI:21322767"
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/transl_table=
4766. .5302
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Kennervkunehito.W., Sahm,H., Eggering,L. and Pfefferle,W.
Nuclectide sequence encoding the discharge of branched amino acid,
method of isolating the same and utilization thereof
patent: JP 2001169788-A 4 26-JUN-2001;
DEGUSSA HUBLS AG, FORSCHUNGSZENTRUM JUELICH GMBH
OS COTYNEDACTETIUM glutamicum ATCC13032
PN JP 2001169788-A/4
PD 26-JUN-2001
PF 24-OCT-2000 JP 2000324315
PF 24-OCT-2909 DE 19951708.8
PI NICOLE KENNERUKUNEHITO,HERWANN SAHM,LOTHAR EGGERING,WALTER PI
PFEFFERLB
PC C12N15/09,C12R1:15),(C12N1/21,C12R1:15),(C12P13/06,C12P13/08,C12R1:15),
PC (C12N15/09,C12R1:15)
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FH Key Location/Qualifiers
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Nucleotide sequence encoding to method of isolating the same a BD014991

BD014991

BD014991.1 GI:22555798

JP 2001169788-A/1.
unclassified.

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1 (bases 1 to 1271)

Kennerwkunehito,N., Sahm,H., Eggering,L. and Pfefferle,W. Nucleotide sequence encoding the discharge of branched ammethod of isolating the same and utilization thereof patent: JP 2001169788-A 126-UUN-2001;
DEGUSSA HUBLS AG, FORSCHUNGSZENTRUM JUELICH GMBH OS Corynebacterium glutamicum ATCC14752
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26-JUM-2001
24-OCT-2000 JP 2000324315
27-OCT-1999 DE 19951708.8
NICOLE KENNERUKUNEHITO, HERMANN SAHM, LOTHAR EGGERING, WALTER
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/mol_type="genomic DNA"
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Sequence 6:
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Corynebacterium glutamicum
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Corynebacterineae; Corynebacteriaceae; Coryn
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Degussa AG (DE) ; FORSCHUNGSZENTRUM JUELICH GMBH (DE) LOCALION/Qualifiers
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/note="unnamed protein
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/mol_type="unassigned DNA"
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Kennerknecht, N., Eggeling, L., Sahm, H. and Pfefferle, W. Nucleotide sequences coding for branched-chain amino a proteins, method for isolating them and their use Patent: Ep 1096010-A 1 02-MAY-2001;
Degussa AG (DE) ; FORSCHUNGSZENTRUM JUELICH GMBH (DE)
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Similarity 100.0%;
71; Conservative 0,
TGTGGGGGCCCCTGGGGGCATGGCGCTCACAATTGCTGGTGAACTTCCGCCA
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/note="ATCC14752"
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/db_xref="REMTREMBL:CAC39923"
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SUMMARIES

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ALIGNMENTS

JOURNAL	TITLE	AUTHORS	REFERENCE		ORGANISM	SOURCE	KEYWORDS	VERSION	ACCESSION	DEFINITION	Locus	AR391953	RESULT 1
acids, process for the isolation thereof and use thereof Patent: US 6613545-A 1 02-SEP-2003;	Nucleotide sequences coding for the export of branched chain amino	Kennerknecht, N., Sahm, H., Eggeling, L. and Pfefferle, W.	1 (bases 1 to 1271)	Unclassified.	Unknown.	Unknown.		AR391953.1 GI:40115724	AR391953	Sequence 1 from patent US 6613545.	AR391953 1271 bp DNA linear PAT 18-DEC-2003		

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X MEDLINE=21929760; PubMede11932238;

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X Galagan J.E., Nusbaum C., Roy A., Endrizzi M.G., Macdonald P.,

RA FitzBugh W., Calvo S., Engels R., Smirnov S., Atnoor D., Brown A.,

RA Allen N., Naylor J., Stange-Thomann N., DeArellano K., Johnson R.,

RA Linton L., McEwan P., McKernan K., Talamas J., Tirrell A., Ye W.,

RA Zimmer A., Barber R.D., Cann I., Graham D.E., Grahame D.A., Guss A.M.,

RA Hedderich R., Ingram-Smith C., Kuettner H.C., Krzycki J.A.,

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RA Springer T.A., Umayam L.A., White O., White R.H., Le Macario E.C.,

RA Ferry J.G., Jarrell K.F., Jing H., Macario A.J.L., Paulsen I.,

RA Metcalf W.W., Birren B.,

"The genome of Methanosarcina acetivorans reveals extensive metabolic

RT and physiological diversity.",

RI Genome Res. 12:532-542(2002).

DR ZEMBL, AE011050; AAM06805.1; -.

DR InterPro; IPR008407; AzlD.
Search completed: April 16, 2004, 06:55:52
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Branched chain amino acid transport protein AzlD.
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A Nierman W.C., Feldblyum T.V., Laub M.T., Ohta N., Maddock J.R.,

Potocka I., Nelson W.C., Newton A., Stephens C., Phadke N.D., Ely

A DeBoy R.T., Dodson R.J., Durkin A.S., Gwinn M.L., Haft D.H.,

A Kolonay J.F., Smit J., Craven M.B., Khouri H., Shetty J., Berry I

A Kolonay J.F., Smit J., Craven M.B., Khouri H., Shetty J., Berry I

Utterback T., Tran K., Wolf A., Yamathavan J., Ermolaeva M., Whil

Na Salzberg S.L., Venter J.C., Shapiro L., Fraser C.M., Whil

Na Complete genome sequence of Caulobacter crescentus.";

Proc. Natl. Acad. Sci. U.S.A. 98:4136-4141(2001).
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STRAIN-EGD-e / Serovar 1/2a;

MEDLINE-21537279; PubMed=11679669;

MEDLINE-21537279; PubMed=11679669;

Glaser P., Frangeul L., Buchrieser C., Rusniok C., Amend A.,

Baquero F., Berche P., Bloecker H., Brandt P., Chakraborty T.,

Charbit A., Chetouani F., Couve E., de Daruvar A., Dehoux P.,

Domann E., Dominguez-Bernal G., Duchaud E., Durant L., Dussur,

Entian K.-D., Fsihi H., Garcia-del Portillo F., Garrido P.,
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Pfam; PF04932; Wzy_C; 1.
Hypothetical protein; Complete proteome.
SEQUENCE 407 AA; 43683 MW; 49FFEFD4DD2D0E7D CRC64;
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Caulobacteraceae; Caulobacter.
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Bacteria; Firmicutes; E
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(TrEMBLrel.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                lmo1443
                                                                                                                                                                                                                                                                                                                                                                                         Bacillales;
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ke N.D., Ely B.,
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Jones L.-M., Kaerst U., Kreft J., Kuhn M., Kunst F., Kuraph
Madueno E., Maitournam A., Mata Vicente J., Ng E., Nedjari
Nordsiek G., Novella S., de Pablos B., Perez-Diaz J.-C., Pu
Remmel B., Rose M., Schlueter T., Simoes N., Tierrez A.,
Vazquez-Boland J.-A., Voss H., Wehland J., Cossart P.,
"Comparative genomics of Listeria species.";
                                                                                                                                                                                                                                                                                     STRAIN=O6:H1 / CFT073 / ATCC 700928;

MEDLLINE=23388334; PubMede12471157;

Welch R.A., Burland V., Plunkett G. III, Redford P., Roesch

Mesko D., Buckles B.L., Liou S.-R., Boutin A., Hackett J., S

Mayhew G.F., Rose D.J., Zhou S., Schwartz D.C., Perna N.T.,

Mobley H.L.T., Donnenberg M.S., Blattner F.R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Science 294:849-852(2001).
EMBL; AL591979; CAC99521.1; -.
PIR; AC1255; AC1255.
ListiList; LM001443; -.
Hypothetical protein; Complete proteome.
Hypothetical protein; Complete proteome.
                                                                                                                                                 InterPro; IPR004670; NhaA.
TIGRFAMs; TIGR00773; NhaA; 1.
Complete proteome.
                                                                                                                                                                                                                                     Proc.
                                                                                                                                                                                                                                               "Extensive mosaic structure revealed by the complete of uropathogenic Escherichia coli."; Proc. Natl. Acad. Sci. U.S.A. 99:17020-17024(2002).
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01-JUN-2003 (TrEMBLrel.
Na(+)/H(+) antiporter 1.
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01-MAR-2003
                                                                                                                                        SEQUENCE
                                                                                                                                                                                          EMBL; AE016755; AAN78524.1; -
GO; GO:00016021; C:integral to membrane;
GO; GO:0006885; P:regulation of pH; IEA.
GO; GO:0006814; P:sodium ion transport;
                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
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Enterobacteriaceae; Eschei
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NHAA OR C0024.
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     AITVVAHLLGGRRTLLSVGAGTIVFVGLV
                              IAFALGVLALLGSRVPLALKIFL--MALAIIDDLGAIIIIALFYTNDLSMASLGVAAVAI
                                                        ITFALRAVPFLILK-PLRESQFVGKMAMMMPAGILAILTASTFRSNAIDLKTLTFGLIAV
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                                                                                    Conservative
                                                                                                                                        AA;
                                                                                                                                        41397 MW;
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26.9%;
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Pred. No. 0.77
23; Mismatches
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Last annotation update)
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                                                                                              Score 82.5;
Pred. No. 3.
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0.77;
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RESULT 9
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RESULT 10
Q92BR3
ID Q92BR
AC Q92BR
DT 01-DE
DT 01-JU
DH Hypot
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01-OCT-2002
01-OCT-2002
01-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

MEDLINE=22391367; PubMed=12503609;

Ludwig M.G., Seuwen K.;

"Characterization of the human adenylyl cyclase gene family:

"Characterization of the human adenylyl cyclase gene family:

gene structure, and tissue distribution of the nine isoforms.

J. Recept. Signal Transduct. Res. 22:79-110(2002).

EMBL; AF497515; AAM94372.1; -.

EMBL; AF497515; AAM94372.1; -.

GO; GO:0008294; F:calcium/calmodulin-responsive adenylate cyclog.

GO; GO:0008294; F:calcium/calmodulin-responsive adenylate cyclog.
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NON_TER
NON_TER
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SMART; SM00044; CYCc; 2.
PROSITE; PS00452; GUANYLATE_CYCLASES_1;
PROSITE; PS50125; GUANYLATE_CYCLASES_2;
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01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
Adenylate cyclase type I (EC 4.6.1.1) (Fragment).
                                                                                                                                                                                                                                                                                                                                      Lyase.
NON TER
SEQUENCE
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
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                               Q92BR3 PRELIMINARY; PRT; 108 AA. Q92BR3; O1-DEC-2001 (TrEMBLrel. 19, Created) O1-DEC-2001 (TrEMBLrel. 19, Last sequence update) O1-JUN-2003 (TrEMBLrel. 24, Last annotation updat Hypothetical protein lin1481.
                  Listeria innocua.
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ilarity 31.4%;
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Pred.
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        Listeriaceae;
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Q7VI97;
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01-0CT-2003
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STRAIN-CLIP 11262 / Serovar 6a;
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[1]
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Science 294:849-852(2001).
EMBL; AL596168; CAC96712.1; -.
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                                                                                                                                                                                                  Suerbaum S., Josenhans C., Sterzenbach T., Drescher B., Brandt P. Bell M., Droege M., Fartmann B., Fischer H.-P., Ge Z., Hoerster A. Holland R., Klein K., Koenig J., Macko L., Mendz G.L., Nyakatura Schauer D.B., Shen Z., Weber J., Frosch M., Fox J.G.; "The complete genome sequence of the carcinogenic bacterium Helicobacter hepaticus."; Proc. Natl. Acad. Sci. U.S.A. 100:7901-7906(2003).
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STRAIN=ATCC 51449 / 381;
MEDLINE=22709201; PubMed=12810954;
Gustain C Torontain C torontain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Helicobacter hepaticus.
Bacteria; Proteobacteria; Epsilo
Helicobacteraceae; Helicobacter
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                                                                                                                                                                   Hypothetical SEQUENCE 11
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25; Conserv
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                                                                                  Conservative
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13 AA; 12511 MW; 6D613F77CEB6C90F
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Last sequence update)
Last annotation updat
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Pred. No. 0.57
27; Mismatches
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4; Mismatches
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Pred. No. 0.
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89E14D6C6B8EE083 CRC64;
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Nat. Biotechnol. 21:526-531(2003).
EMBL; AP005031; BAC70208.1; -.
Hypothetical protein; Complete proteome.
SEQUENCE 102 AA; 10210 MW; 1D803E3D1A
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MEDLINE=22608306; PubMed=12692562;
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SEQUENCE
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NCBI TaxID=216816;
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01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation updat
Branched-chain amino acid permease.
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Sakaki Y., Hattori M., Omura S.;
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Schell M.A., Karmirantzou M., Snel B., Vilanov Pessi G., Zwahlen M.-C., Desiere F., Bork P., Pridmore R.D., Arigoni F.;
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Pfam; PF05437; AzlD; 1.
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AE014801; AAN25455.1; -.
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                                                                                                                                YALRNTPI--LTGSHGLPELIACTVIVLLH-VWKRNMLLSIAGGTIVYMLLVQL
                                                                                                                                                                                             STFRSNAIDLKTLTFG---
                                                                                                                                                                                                                                                MTTDFSCILLVVAVCAVITFALRAVPFLIL----KPLRESQFVGKMAMWMPAGILAILTA
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                                                                                                                                                                                                                                                                                                                                                                                    Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  n; Complete proteome.
10210 MW; 1D803E3D1A40563B
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29.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12265 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                   16.8%;
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                                                                                                                                                                                                                                                                                                                                                                                       19;
                                                                                                                                                                                                                                                                                                                                                                                    Score 88.5; D
Pred. No. 0.22
19; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 90;
Pred. No.
                                                                                                                                                                                                 LIAVAITVVAHLLGGRRTLLSVGAGTIVFVGLVNL 107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCIMB 12804 /
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     52FB38C7F95274CC CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 16;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 16;
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Best Local
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01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Branched-chain amino acid transport protein.
ALLD OR MM3263.
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STRAIN-GOE1 / GO1 / ATCC BAA-199 / DSM 3647 / OCM 88;

MEDLINE-22120827; PubMed-12125824;

MEDLINE-22120827; PubMed-12125824;

Deppenmeier U., Johann A., Hartsch T., Merkl R., Schmitz R.A.,

Martinez-Arias R., Henne A., Wiezer A., Baeumer S., Jacobi C.,

Martinez-Arias R., Henne A., Wiezer A., Boemecke M., Steckel S

Brueggemann H., Lienard T., Christmann A., Boemecke M., Steckel S

Bhattacharyya A., Lykidis A., Overbeek R., Klenk H.-P., Gunsalus

Fritz H.-J., Gottschalk G.;

"The genome of Methanosarcina mazei: evidence for lateral gene

"The genome of Methanosarcina mazei: evidence for lateral gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              088444;
01-NOV-1998
01-NOV-1998
01-JUN-2003
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EMBL; AE013585; AAM32959.1; -.
InterPro; IPRODAGGG. --"-"
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SEQUENCE
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Methanosarcinales; Metha
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Archaea; Euryarchaeota; Euryarchaeota orders incertae
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bukaryota; Metazoa;
Mammalia; Butheria;
NCBI_TaxID=10090;
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                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
STRALIN=C57BL/6J; TISSUE=Brain;
MEDLINE=9824784; PubMed=9662407;
Abdel-Majid R.M., Leong W.L., Schalkwyk L.C.,
Wong S.T., Storm D.R., Fine A., Dobson M.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mus musculus (Mouse)
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                                                                                                                                                                     EMBL; AF053980;
HSSP; P26769; 11
                                                                                                                                                                                                                    Nat. Genet
                                                                                                                                                                                                                                         somatosensory
                                                                                                                                                                                                                                                                                              Neumann
                                                                                                                                                                                                                                                                   "Loss of adenylyl cyclase I activity
MGI.99677; Adcyl.
GO:0008294; F:calcium/calmodulin-responsive adenylate
GO:0004383; F:guanylate cyclase activity; IEA.
GO:0016829; F:lyase activity; IEA.
; GO:0016829; F:lyase activity; IEA.
; GO:007240; F:intracellular signaling cascade; IEA.
cerpro; IPR001054; G_cyclase.
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3 (TrEMBLrel. 08, 1
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7 Clase type I (EC.
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                                                                                                                                                                                            19:289-291(1998).
980; AAC29478.1; -.
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19; Mismatches
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Last sequence update)
Last annotation update)
4.6.1.1) (Fragment)
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0.32;
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                                                 SEQUENCE FROM N.A.

STRAIN='SS-314 / AJ 12310 / DSM 44549 / JCM 11189;

KAMATABAYASÍ Y., YAMAZAKÍ J., HÍNO Y., KÍKUCHÍ H., NAKAMUTA Y.,

IKEO K., SUZUKÍ M., MASHÍMA J., ITOH T., YAMAGISHÍ A., NÍSHÍO Y.,

USUMA Y., SUGÍMOTO S.;

"The entire genomic sequence of Corynebacterium efficiens YS-314.";

SUDMITTEM (MAY-2002) to the EMBL/GenBank/DDBJ databases.

EMBL; AP005224; BAC19735.1; -.

INTERFOR, IPRO08407; AZID.

Pfam; PP05437; AZID; 1.
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01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation updat
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
STRAIN=ATCC 13032
Hypothetical protein; Complete proteome.
SEQUENCE 116 AA; 12255 MW; 31B0AAE454103417 CRC64.
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NCBI_TaxID=152794;
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01-0CT-2002 (TrEMBLrel. 22, Last sequence update)
01-0CT-2003 (TrEMBLrel. 25, Last annotation update)
Hypothetical membrane protein Cgl3082.
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Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
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Best Local :
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01-JUN-2003 (TrEMBLrel. 2:
01-JUN-2003 (TrEMBLrel. 2:
01-JUN-2003 (TrEMBLrel. 2:
Hypotherical protein.
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Bolotin A., Wincker P., Mauger S., Jaillon O., Malarme K.,
Weissenbach J., Ehrlich S.D., Sorokin A.;
"The complete genome sequence of the lactic acid bacterium lactic ssp. lactis IL1403.";
Genome Res. 11:731-753(2001).
EMBL; AE006391; AAXOS710.1; -.
EIR; D86826; D86826.
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01-JUN-2001
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Bacteria, Firmicutes; Lactobacillales; Streptococcaceae; Lactococcus.
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01-JUN-2003
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30.7%; Pred. No. 2.2
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SEQUENCE FROM N.A.
STRAIRMA-4680 / ATCC 31267 / NCIMB 12804 / NRRL 8165;
STRAIRMA-4480 / ATCC 31267 / NCIMB 12804 / NRRL 8165;
MEDIXINE-21471403; PubMed=11572946;
Omura S., Ikeda H., Ishikawa J., Hanamoto A., Takahashi C.,
Shinose M., Takahashi Y., Horikawa H., Nakazawa H., Osonoe T.
Kikuchi H., Shiba T., Sakaki Y., Hattori M.;
Kikuchi H., Shiba T., Sakaki Y., Hattori M.;
Kikuchi H., Shiba T., Sakaki Y., Hattori M.;

ashi C., Osonoe T.,

Streptomycineae; Streptomycetaceae; Streptomyces. NCBI_TaxID=33903;

Streptomyces avermitilis.
Bacteria; Actinobacteridae; Actinomycetales;

Last sequence update)
Last annotation update)

SAV2497

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Title:
Perfect score:
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Copyright (c) 1993 - 2004 Compugen Ltd.
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Q88fm5 homo sapien
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Q9a5z6 caulobacter
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vat	Pfam; PF05437; AzlD; 1. Hypothetical protein; Complete SEQUENCE 108 AA; 11480 MW;	EMBL; AP005274; BAB97652.1; EMBL; AF454053; AAM46685.1; InterPro; IPR008407; AzlD.	"Export of L-Isoleucine from coryn Encoded Member of a New Translocat J. Bacteriol. 184:3947-3956 (2002).	Kennerknecht N., Sahm H., Yen M.R., Eggeling L.;	SEQUENCE FROM N.A. MEDLINE=22077265; PubMed=12081967;	Submitted (MA:-2002) to the EMBL/GenBank/DDBJ	genomic sequence of Corynebacterium			+ - +	Corynebacterineae; Corynebacteriaceae; Corynebacterium. NCBI TavID-1718:	Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;	CGEO259 OR BRNE.			(TrEMBLrel.	(TrEMBLrel.	PRELIMINARY;	
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MEDLINE=90204555; PubMed=2319602;

Cummings D.J., Michel F., Domenico J.M., McNally K.L.;

"DNA sequence analysis of the mitochondrial ND4L-ND5 go

from Podospora anserina. Duplication of the ND4L gene v
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NADH-ubiquinone oxidoreductase chain 5 (EC 1.6.5
           MEDLINE=90291512; PubMed=2357736;
Cummings D.J., McNally K.L., Domenico J.M., Matsuura E.T.;
"The complete DNA sequence of the mitochondrial genome of Podospora anserina.";
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AA; 72632 MW; 84CA887B75755FE8 CRC64;
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Piam; PF00001; 7tm 1;

PRINTS; PR00237; GFCRHDDOPSN.

PRINTS; PR00237; G-PROTEIN_RECEP_F1 1; 1.

PR0SITE; PS00262; G-PROTEIN_RECEP_F1 2; 1.

PR0SITE; PS50262; G-PROTEIN_RECEP_F1 2; 1.

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CARBOHYD
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DOMAIN
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Q9JIF3; Q9JJD4; Q9JJZ0;
28-FEB-2003 (Rel. 41, Created).
28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Solute carrier family 2, facilitated glucose transporter, member (Glucose transporter type 8) (Glucose transporter type 8)

SLC2AS OR GLUTS OR GLUTX1.
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                                                                                                                                                               SEQUENCE FROM N.A.

MEDLINE=20138191; PubMed=10671487;
Ibberson M.R., Uldry M.A., Thorens B.;
Ibberson M.R., under M.A., Thorens B.;
Indicated the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                          Mus musculus (Mouse)
Eukaryota; Metazoa;
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                                                       MEDLINE=20283667; PubMed=10821868;
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Bahrenberg C., Brauers A., Joost H.-G.;
the sugar transport facilitator family with
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              Transport;
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                                        TRANSMEM
DOMAIN
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PROSITE; PS00216; SUGAR_TRANSPORT_1; 1.

PROSITE; PS00217; SUGAR_TRANSPORT_2; 1.
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PRINTS; PR00171; SUGRTRNSPORT.
TIGREAMS; TIGR00879; SP; 1.
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25 46 70 91

CYTOPLASMIC (POTENTIAL).

1 (POTENTIAL).

EXTRACELLULAR

2 (POTENTIAL).

(POTENTIAL). (POTENTIAL)

Glycoprotein;

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STRAIN=129; TISSUE=Embryouxc ......
STRAIN=129; TISSUE=Embryouxc .....
MEDLINE=20319023; PubMed=10860996;
Carayannopoulos M.O., Chi M.-Y., Cui Y., Pingsterhaus J.M.,
Carayannopoulos M.O., Chi M.-Y., Cui Y., Moley K.H.;
McKnight R.A., Mueckler M., Devaskar S.U., Moley K.H.;
McKnight R.A., Mueckler M., Devaskar S.U., Moley K.H.;
"GLUT8 is a glucose transporter responsible for insulin-stimulated glucose uptake in the blastocyst.";
glucose uptake in the blastocyst.";
Proc. Natl. Acad. Sci. U.S.A. 97:7313-7316(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                glucose transport activity.";
J. Biol. Chem. 275:16275-16280(2000).
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MGD; MGI:1860103; Sic2a8.

GO; GO:0005887; C:integral to plasma membrane; IDA.

GO; GO:0005536; F:glucose binding; IDA.

GO; GO:0005355; F:glucose transporter activity; IDA.

GO; GO:0005356; P:insulin receptor signaling pathway; IDA.

GO; GO:0006286; P:insulin receptor signaling pathway; IDA.

GO; GO:0001666; P:response to hypoxia; IDA.

InterPro; IPR007114; MFS.

InterPro; IPR007818; Sug_transporter.

InterPro; IPR003828; Sub_transporter.

InterPro; IPR00383; Sug_transporter.

InterPro; IPR00363; Sug_transporter.
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Biochem. Biophys. Res. Commun. 288:969-974(2001).
-!- FUNCTION: Insulin-regulated facilitative glucose transporter.
Binds cytochalasin B in a glucose-inhibitable manner. Seems t
a dual-specific sugar transporter as it is inhibitable by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=21547794; PubMed=11689004; Scheepers A., Doege H., Joost H.-G
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AF232061; AAF78366.1; -.
AJ413951; CAC88690.1; -.
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A Strausberg R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
A Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
A Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
A Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
A Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
A Bitchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
A Brownstein M.J., Usdin T.B., Toshiyuki S., Carrinci P., Prange C.,
A Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
A Stapleton M.J., Usdin T.B., Toshiyuki S., Carrinci P., Prange C.,
A Stapleton M.J., Usdin T.B., Toshiyuki S., Carrinci P., Prange C.,
A Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
A Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
A Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
A Robert S., Morley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.M.,
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A Robert S., Morley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.M.,
A Robert S., Morley K.C., Hale S., J.M., Malek J., J., Hulyk S.M.,
A Robert S., Morley K.C., Hale S., J., Shevchenko Y., Bouffard G.G.,
A Robert S., Morley R.W., Touchman J.W., Green E.D., Dickson M.C.,
A Robert S., Morley R.W., Touchman J.W., Green E.D., Dickson M.C.,
A Robert S., K.M., Morley R.W., Touchman J.W., Green E.D., Dickson M.C.,
A Robert S., K.M., Morley R.W., Touchman J.W., Green E.D., Dickson M.C.,
A Robert S., K.M., Touchman J.W., Green E.D., Dickson M.C.,
A Robert S., K.M., Morley R.W., Touchman J.W., Green E.D., Dickson M.C.,
A Robert S., K.M., Morley R.W., Touchman J.W., Green E.D., Dickson M.C.,
A Robert S., Morley R.W., Touchman J.W., Green E.D., Dickson M.C.,
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Loetscher M., Amara A., Oberlin E., Brass N., Legler D.F.,
Loetscher P., D'Apuzzo M., Meese E.U., Rousset D., Virelizier
Laggiolini M., Arenzana-Seisdedos F., Moser B.;
"TYMSTR, a putative chemokine receptor selectively expressed
activated T cells, exhibits HIV-1 coreceptor function.";
Curr. Biol. 7:652-660(1997).
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Farber J.M.;
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MEDLINE=97311099; P
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Nature 388:296-300(1997).
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                                                                                                                                                                            the Buropean Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for con entitles requires a license agreement (See http://www.isb-sib.ch/aror send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It between the Swiss Institute of Bioinformatics Institute.
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SIMILARITY: Belongs to
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L; U73529; AAB61156.1; -.
L; U73529; AAB61457.1; -.
L; Y13248; CAA735698.1; -.
L; AY322543; AAP84356.1; -.
L; BC033584; AAP33584.1; -.
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t D., Virelizier
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                                                                                                 Brussel A., Pretet J.-L., Girard M., Butor "Sequences and predicted structures of chimg gpr15 (BOB).";
AIDS Res. Hum. Reference
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PROSITE; PS00237; G PROTEIN RECEP_F1_1; 1.

PROSITE; PS50262; G_PROTEIN_RECEP_F1_2; 1.

G-protein coupled receptor; Transmembrane;
                                                                                                                                                                                                                                                                                                15-MAR-2004 (Rel. 43, Created)
15-MAR-2004 (Rel. 43, Last sequence update)
15-MAR-2004 (Rel. 43, Last annotation update)
15-MAR-2004 (Rel. 43, Last annotation update)
C-X-C chemokine receptor type 6 (CXCR-6) (CXCR-6) (Greceptor bonzo) (G protein-coupled receptor STRL33).
CXCR6 OR BONZO OR STRL33.
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Mammalia; Eutheria; Primates;
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                            AIDS Res. Hum. Retroviruses 15:1315-1319(1999).

-i. FUNCTION: Receptor for the C-X-C chemokine CXCL16. Used as a coreceptor by SIVs and by strains of HIV-2 and m-tropic HIV-1.

-i. SUBCELLULAR LOCATION: Integral membrane protein.

-i. SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
                                                                                                                                                                                                                                                                                         Pan troglodytes (Chimpanzee).
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   produced
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                                                                                                                                                 STRL33
     through a collaboration
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signalin.
                                                                                                                                                                                                                                                                                                                                              protein-coupled
                                                                                                                                                   (Bonzo)
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Best Local S
Matches 35
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InterPro; IPR005828; S
InterPro; IPR005829; S
InterPro; IPR003663; S
InterPro; IPR003663; S
SEQUENCE FROM N.A.
MEDINE-97373958; PubMed-9230441;
Deng H.K., Unutmaz D., Kewalramani V.N.,
"Expression cloning of new receptors used
                                                  Cercopithecus aethiops (Green monkey) (Grivet).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Butheria, Primates, Catarrhini, Cercopithecidae,
Cercopithecinae, Cercopithecus.
NCBI_TaxID=9534;
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CARBOHYD
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DOMAIN
TRANSMEM
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TRANSMEM
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DOMAIN
                                                                                                                               15-JUL-1998 (Rel. 36, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
15-MAR-2004 (Rel. 43, Last annotation update)
C-X-C chemokine receptor type 6 (CXC-R6) (CXCR-6) (G protein-coupled
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DOMAIN
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PROSITE; PS50850; MTS; 1.

PROSITE; PS00216; SUGAR_TRANSPORT_1;

PROSITE; PS00217; SUGAR_TRANSPORT_2;

Transmembrane; Transport; Quinate_met
                                                                                                            receptor bonzo).
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                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
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15-JUL-1998
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                                                                                                                                                                                       CERAE
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                                                                                                                                                                                                                                            332 VVKMVLTIIWLLWLVDLVGRRRILFIGAAGGSLCMWFIG 370
                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                73 LIAVAITVVAHL----LGGRRTLLSVGA--GTIV--FVG 103
                                                                                                                                                                                                                                                                                                                                Similarity
35; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PR00171;
                                                                                                                                                                                                                                                                                                          PFLILKPLRESQ---FVGKMA-MWM-PAGILAI--LTASTFRSNAID-----LKTLTFG
                                                                                                                                                                                                                                                                                      PFLSLKQ-RKVQWRFFLGGMLFFWQNGSGINAINYYSPTVFRSIGITGTDTGFLTTGIFG
                                                                                                                                                                                                                                                                                                                               13.7%; Score 72; DB 1; Length 537; larity 35.4%; Pred. No. 7.1; Conservative 16; Mismatches 26; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              153
161
                                                                                                                                                                                                                                                                                                                                                                           AA;
                                                                                                                                                                                       STANDARD;
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Sub_transporter.
Sug_transporter.
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CYTOPLASMIC (POTENTIAL).
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                                                                                                                                                                                                                                                                                                                                                                                              12 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
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10 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
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EXTRACELLULAR (POTENTIAL)
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EXTRACELLULAR (POTENTIAL)
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EXTRACELLULAR (POTENTIAL)
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CYTOPLASMIC (POTENTIAL).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (POTENTIAL)
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   used
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               Littman D.R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (POTENTIAL).
   by simian and human
                                                                                                                                                                                                                                                                                                                                                                                      (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                 22
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RRAP OCCORDED TO
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                                                                                                                                                                                                                                                 CCR6_HUMAN
                                                                                                                                                                                                                                                                 RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
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Best Local
                                                                                                                   CCR6_HUMAN STANDARD; PRT; 342 Ah.
000574; 000575;
15-JUL-1998 (Rel. 36, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
15-MAR-2004 (Rel. 43, Last annotation update)
15-MAR-2004 (Rel. 43, Last annotation update)
C-X-C chemokine receptor type 6 (CXC-R6) (CXCR-6) (CXCR-6)
CXCR6 OR BONZO OR STRLJ3 OR TYMSTR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DOMAIN
TRANSMEM
DOMAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                immunodeficiency viruses.";
Nature 388:296-300(1997).
-!- FUNCTION: Receptor for the C-X-C chemokine CXCL16. Used as a coreceptor by SIVs and by strains of HIV-2 and m-tropic HIV-1.
-!- SUBCELLULAR LOCATION: Integral membrane protein.
-!- SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
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TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRINTS; PR00237; GFCRHODOPSN.
PROSITE; PS00237; G PROTEIN RECEP F1 1; 1.
PROSITE; PS50262; G PROTEIN_RECEP_F1_2; 1.
PROSITE; PS50262; G PROTEIN_RECEP_F1_2; 1.
G-protein coupled receptor; Transmembrane;
DOMAIN 1 32
EXTRACELLULAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; AF007859; AAB64225.1; InterPro; IPR000276; GPCR_R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pfam; PF00001; 7tm
SEQUENCE FROM N.A.
MEDLINE=97373958; PubMed=9230441;
Deng H.K., Unutmaz D., Kewalramani V.N.,
"Expression cloning of new receptors used
                                                                                     Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
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                                                                    NCBI_TaxID=9606;
                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CARBOHYD
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                                                                                                                                                                                                                                                                                                                                     54 LTASTERSNAIDLKTLTF --- GLIAVAITV 80
                                                                                                                                                                                                                                                                                                                                                                                                                            25;
                                                                                                                                                                                                                                                                                                                                                                                                7 CILLVVAVCAVITFALRAV-------PFLILKPLRESQFVGKMAMMMPAGILAI 53
                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                   CMYLVVFVCGLVGNSLVLVISIFYHKLQSLTDVFLVNLFLADLVFVCTLPFWAYAGIHEW 95
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342
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1264
1444
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                                                                                                                 (Human)
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                                                                                   Chordata; Craniata; Vertebrata; Euteleostomi; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     39226 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                         13.3%;
27.8%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 70;
Pred. No.
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BY SIMILARITY.
N-LINKED (GLCNAC. . .) (POTENTIAL).
, 6CBFE389C6E5919E CRC64;
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2 (POTENTIAL).
EXTRACELLULAR (POTENTIAL)
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7 (POTENTIAL).
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7.3;
                 Littman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (POTENTIAL).
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   simian and human
                                                                                                                                                                                                                                                                                                                                                                                                                            38; Indels
                 D.R.;
                                                                                                                                                          (G protein-coupled
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Best Local S
Matches 26
SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

STRAIN=MC58 / Serogroup B;

STRAIN=MC58 / Serogroup B;

STRAIN=MC58 / Serogroup B;

STRAIN=MC58 / Serogroup B;

STRAIN=MC58 / Serogroup B;

MEDLINE=20175755; PubMed=10710307;

Melson T., Setchum K.A., Hood D.W., Pederson J.D., Hickey E.K.,

Nelson W.C., Gwinn M.L., DeBoy R., Peterson J.D., Hickey E.K.,

Mason T., Clecko A., Parksey D.S., Plair E., Cittone H., Clark E.B.,

Cotton M.D., Utterback T.R., Khouri H., Qin H., Vamathevan J.,

Gill J., Scarlato V., Masignani V., Pizza M., Grandi G., Sun L.,

Smith H.O., Fraser C.M., Moxon E.R., Rappuoli R., Venter J.C.;

Smith H.O., Fraser C.M., Moxon E.R., Rappuoli R., Venter J.C.;

Smith H.O., Fraser C.M., Moxon E.R., Rappuoli R., Venter J.C.;
                                                                                                                                                                                                                                                                                                                          STRAIN=22491 / Serogroup A / Serotype 4A;

MEDLINE=2022556; PubMed=10761919;

Parkhill J., Achtman M., James K.D., Bentley S.D., Churche:
Rlee S.R., Morelli G., Basham D., Brown D., Chillingworth:
Davies R.M., Davis P., Devlin K., Feltwell T., Hamlin N., I
Jagels K., Leather S., Moule S., Mungall K., Quail M.A.,
Rajandream M.A., Rutherford K.M., Simmonds M., Skelton J.,
Whitehead S., Spratt B.G., Barrell B.G.;

"Complete DNA sequence of a serogroup A strain of Neisseria
meningitidis Z2491.";
Nature 10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Y420 NEIMA
Q9JRTO;
16-OCT-2001
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DOMAIN
SEQUENCE
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16-OCT-2001 (Rel. 40, Last sequence u
28-FEB-2003 (Rel. 41, Last annotation
Hypothetical protein NMA0420/NMB2020.
NMA0420 OR NMB2020.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bacteria; Proteobacteria;
Neisseriaceae; Neisseria.
NCBI_TaxID=65699, 491;
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Neisseria meningitidis (serogroup
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10 (BY SIMILARITY).

CYTOPLASMIC (BY SIMILARITY).

11 (BY SIMILARITY).

PERIPLASMIC (BY SIMILARITY).

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CYTOPLASMIC (BY SIMILARITY).
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Pred. No. 9.5;
22; Mismatches
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CYTOPLASMIC (BY SIMILARITY)
9 (BY SIMILARITY).
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7 (BY SIMIL
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AC P11636;
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EMBL; AE002552; AAF42343.1;
PIR; G81014; G81014.
                                                                                                                       SEQUENCE FROM N.A.

STRAIR=74-0R23-1A / FGSC 987;

MEDILINE=89293848; PubMed=3525625;

Geever R.F., Huiet L., Baum J.A., Tyler B.M., Patel V.B.,

Rutledge B.J., Case M.E., Giles N.H.;

"DNA sequence, organization and regulation of the qa gene

"DNA sequence, organization and regulation of the Qa gene

Neurospora crassa.";

J. Mol. Biol. 207:15-34(1989).

J. Mol. Biol. 207:15-34(1989).

-!- SUMCILIULAR LOCATION: Integral membrane protein.

-!- SIMILARITY: Belongs to the sugar transporter family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
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                     This SWISS-PROT entry is copyright. It is produced through a c between the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and fo entities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                           Neurospora crassa.
Eukaryota; Fungi; Ascomycota; Pezizomycotina;
Sordariomycetidae; Sordariales; Sordariaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TIGR;
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10-OCT-2003
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22; Conserv
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. 12, Last sequence update)
. 42, Last annotation updat
(Quinate transporter).
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5 POTENTIAL.
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Neurospora.
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X14603;

CAA32752

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ACRB ESCULT
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AC 931274
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Matches 31
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Moelling J., Breton G., Omelchenko M.V., Makarova K.S., Zeng Q.,
Moelling J., Breton G., Omelchenko M.V., Mitti J., Wolf Y.I.,
Gibson R., Lee H.M., Dubois J., Qiu D., Hitti J., Wolf Y.I.,
Tatusov R.L., Sabathe F., Doucette-Stamm L., Soucaille P., Daly M.J.,
Bennett G.N., Koonin E.V., Smith D.R.,
"Genome sequence and comparative analysis of the solvent-producing
bacterium Clostridium acetobutylicum.",
Dacterium Clostridium acetobutylicum.",
J. Bacteriol. 183:4823-4838(2001)
J. Bacteriol. 183:4823-4838(2001)
J. Bacteriol. 183:4823-4838(2001)
J. SIMILARITY: BELONGS TO THE TRPP TRANSPORTER FAMILY.

-!- SIMILARITY: BELONGS TO THE TRPP TRANSPORTER FAMILY.
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PIR; ;
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                                                                                                                                                                                  P31274;
01-JUL-1993 (Rel. 26, Created)
01-JUL-1993 (Rel. 26, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Acriflavine resistance protein B.
ACRB OR ACRE OR B0462.
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  SEQUENCE FROM N.A.
STRAIN=K12 / W4573;
MEDLINE=94012493; P
                                                                                                                                                Bacteria; Proteobacteria; Gammaproteobacteria;
Enterobacteriaceae; Escherichia.
                                                      Xu J., Bertrand K.P.;
"Nucleotide sequence
Submitted (MAY-1993)
                                                                                                                                                                          Escherichia coli
                                                                                                                                  NCBI_TaxID=562;
                                                                                                         EQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; AE007858; AAK81540.1; -. A97344; A97344.
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9 31 POTENTIAL.
8 80 POTENTIAL.
107 129 POTENTIAL.
139 161 POTENTIAL.
171 AA; 18440 MW; CC9AAB476CEC8B0C
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                                                         Escherichia coli.";
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        PIR; B36938; B36938.

ECOGENE; EG11704; acrB.

InterPro; IPR001036; Acrflvin_res.

InterPro; IPR004764; HAE1.

PEANTS; PR00702; ACR_TEALVINGP.

PIGREAMS; TIGR00915; 2A0602; 1.
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MEDIINE=97426617; PubMed=9278503;
Blattner F.R., Plunkett G. III, Bloch C.A., Perna N.T., Burland V
Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Wayhew G.F.,
Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ma D., Cook D.N., Alberti M., Pon N.G., "Molecular cloning and characterization Escherichia coli.";
                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collar between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentities requires a license agreement (See http://www.isb-sib.ch/anor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=20381028; PubMed=10920254; Kawabe T., Fujihira E., Yamaguchi A.; "Molecular construction of magnutidrug molecular interaction between ACTA and N-terminal signal sequence of ACTA."; J. Biochem. 128:195-200(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=95379493; PubMed=7651136;
Ma D., Cook D.N., Alberti M., Pon N.G., Nikaido H.,
"Genes acrA and acrB encode a stress-induced efflux
Escherichia coli.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Roberts D., Allen E., Araujo R., Aparicio A., Chung S., Davis Duncan M., Federspiel N., Hyman R., Kalman S., Komp C., Kurdi Lew H., Lin D., Namath A., Oeffner P., Schramm S., Davis R.W.; Submitted (JAN-1997) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mau B., Shao Y.;
"The complete genome sequence Science 277:1453-1474(1997).
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                                                                                                                                                                                                                                                                                                                                specificity.

SUBUNIT: INTERACTS WITH ACRA.

-i- SUBCELLULAR LOCATION: Integral membrane protein.

-i- SIMILARITY: BELONGS TO THE ACRB/ACRD/ACRF FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mol. Microbiol. 16:45-55(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CHARACTERIZATION.
EMBL; M94248; AAA23411.1; -.
EMBL; U00734; AAA67135.1; -.
EMBL; AE000152; AAC73564 1; -.
EMBL; U82664; AAB40216.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                             -!- FUNCTION: AcraB is a drug efflux
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AcrB, and cleavage of t
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Eukaryota; Metazo
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Bovidae; Bovinae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PDB; 1AWK; 28-JAN-98.

InterPro; IPRO01054; G_cyclase.

Pfam; pR00211; guanylate_cyc; 2.

SMART; SM0044; CYCc; 2.

PROSITE; pS00452; GUANYLATE_CYCLASES_1; 2.

PROSITE; pS50125; GUANYLATE_CYCLASES_2; 2.

Lyase; cAMP biosynthesis; Transmembrane; Glycoprotein; Repeat; Calmodulin-binding; Metal-binding; Magnesium; 3D-structure.

DOMAIN

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CYTOPLASMIC (POTENTIAL).
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O. Natl. Acad. Sci. U.S.A. 94:13414-13419(1997).

O. Natl. Acad. Sci. U.S.A. 94:13414-13419(1997).

FUNCTION: This is a calmodulin-sensitive adenylyl cyclase. May be involved in regulatory processes in the central nervous system. It may play a role in memory acquisition and learning.

CATALYTIC ACTIVITY: ATP = 3, '5'-cyclic AMP + diphosphate.

COPACTOR: Binds 2 magnesium ions per subunit (By similarity).

ENZYME REGULATION: Activated by calcium/calmodulin. Inhibited by the G protein beta and gamma subunit complex.

SUBCELLULAR LOCATION: Integral membrane protein.

TISSUE SPECIFICITY: Brain.

DOMAIN: Composed of two homologous domains.

DOMAIN: Composed of two homologous domains.
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Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
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TRPP CLOAB STANDARD; PRT; 171 AA.

ID TRPP CLOAB STANDARD; PRT; 171 AA.

AC Q97D63;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
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20; Mismatches
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Probable tryptophan transport protein.
TRPP OR CAC3617.
Clostridium acetobutylicum.
Bacteria; Firmicutes; Clostridia; Clostridiales; Clostridiaceae;
Clostridium.

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EMBL; D90823; BAA15590.1; -.
EMBL; D90823; BAA15590.1; -.
EMBL; AE016761; AAN80653.1; -.
EMBL; AE015167; AAN43034.1; -.
EMBL; AE015167; AAN43034.1; -.
EMBL; AE015167; AAN43034.1; -.
EMBL; AE015167; AAN43034.1; -.
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EMBL; AE015167; AAN43034.1; -.
EMBL; AE015186; Yeal.
Interpro; IPR007382; DUF441.
Interpro; IPR007382; DUF441.
Pfam; PF04284; DUF441; 1.
Pfam; PF04284; DUF441; 1.
Pfam; PF04284; DUF441; 1.
Pfam; PF04284; DUF441; 1.
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MEDLINE=22590274; PubMed=12704152;
Wei J., Goldberg M.B., Burland V., Venkatesan M.M., Deng W.,
Fournier G., Mayhaw G.F., Plunkett G. III, Rose D.J., Darling A.
Mau B., Perna N.T., Payne S.M., Runyen-Janecky L.J., Zhou S.,
Schwartz D.C., Blattner F.R.;
Complete genome sequence and comparative genomics of Shigella
"Complete genome sequence and comparative genomics of Shigella
Tlexneri serotype 2a strain 2457T.";
Infect Immun. 71:275-2786(2003)
--- SUBCELLULAR LOCATION: Integral membrane protein (Potential).
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Cheng H.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@sisb-sib.ch).
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Nucleic Acids Res.
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LINE-22272406; PubMed=12384590;
Q., Yuan Z., Xu J., Wang Y., Shen Y., Lu W., Wang J., Liu H.,
Q., Yuan Z., Xu J., Wang Y., Shen Y., Zhang G., Wu H., Qu D., Dong G., Yang F., Zhang X., Zhang J., Yang G., Wu H., Qu D., Dong G., Yang F., Zhao A., Gao Y., Zhu J., Kan B., Ding K., Chen S.,
ng H., Yao Z., He B., Chen R., Ma D., Qiang B., Wen Y., Hou Y.,
84
                                                                                                    24
                                                 72
                                                                                                                                                                                                               l Similarity
27; Conserv
                                                                                                                                                           VAVCAVITFALRAVPFLILKPLRESQFVGKMAMMPAGILAILTASTFRSNAIDLKTLTF
                                                                                                    VAVSILVLIVRVTPLSTFFFWIEXQGLSIGIILTIGVMAPIASGTLPPSTLIHSFLNW
  KSIVAIAVGVIVSWLGGRGVTIMGSQPQLVAGLLVGTVLGVALFRGVPVGPLIAAGIVSL
                                                   -GLIAVAITVVAHLLGGRRTLL--
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71 PC
106 PC
141 PC
15255 MW;
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Pred. No. 0.43
20; Mismatches
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C724E91E1BA51FE93 CRC64;
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                                                      ----SVGAGTIVFVGLVNL
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                                                                                                                                                                                                                     24;
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RESULT 5 YH37_HAEIN

17, Created)
17, Last sequence update)
42, Last annotation update)
type I (EC 4.6.1.1) (ATP p
n activated adenylyl cyclase

) (ATP pyrophosphate-lyase) cyclase).

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RESULT 6
CYAL BOVIN
ID - TYAL BOVIN
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ID - TYAL BOVIN
AC P19754;
DT 01-FEB-1991 (Rel. 17
DT 01-FEB-1991 (Rel. 17
DT 10-CCT-2003 (Rel. 42
DE Adenylate cyclase, t
DE (Ca(2+)/calmodulin a
GN ADCY1.
OS Bos taurus (Bovine).
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Matches 21
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MEDLINE=95350630; PubMede7542800;

Fleischmann R.D., Adams M.D., White O., Clayton R.A., Kirkness Fleischmann R.D., Adams M.D., White O., Clayton R.A., Merrick Kerlavage A.R., Bull C.J., Tomb J.-F., Dougherty B.A., Merrick McKenney K., Sutton G., Fitzhugh W., Fields C.A., Gocayne J.D., Scott J.D., Shirley R., Liu L.-I., Glodek A., Kelley J.M., Scott J.D., Shirley R., Liu L.-I., Glodek A., Kelley J.M., Scott J.D., Shirley R., Liu L.-I., Glodek A., Kelley J.M., Scotton M.D. Weidman J.F., Phillips C.A., Spriggs T., Hedblom E., Cotton M.D. Utterback T.R., Hanna M.C., Nguyen D.T., Saudek D.M., Brandon R Fine L.D., Fritchman J.L., Fhirmann J.L., Geoghagen N.S.M., Gnehm C.L., McDonald L.A., Small K.V., Fraser C.M., Smith H.O., Wenter J.C.;
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P44301;
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01-NOV-1995 (
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Hypothetical
HI1737
                                                                                                                                                                                                                                                                                                                                                                                  Hypothetical protein; TRANSMEM 7 27
TRANSMEM 37 57
TRANSMEM 63 83
SEQUENCE 109 AA; 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Haemophilus influenzae.
Bacteria; Proteobacteria; Gam
Pasteurellaceae; Haemophilus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collab between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentities requires a license agreement (See http://www.isb-sib.ch/anor send an email to license@isb-sib.ch).
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STRAIN=Rd / KW20 /
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PIR; E64041; E64041.
TIGR; H11737; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Science 269:496-512(1995).
-!- SUBCELLULAR LOCATION: Integral membrane protein (Potential).
-!- SIMILARITY: BELONGS TO THE AZLD/HI1737/HP1330 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Whole-genome random sequencing and assembly of Haemophilus influenzae
                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro; IPR008407; Pfam; PF05437; AzlD;
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. protein HI1737.
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RA Sgouros J., Peat N., Hayles J., Baker S., Basham D., Bomman S.,
RA Brooks K., Brown D., Brown S., Chillingworth T., Churcher C.M.,
RA Golliss M., Connor R., Cronin A., Davis P., Feltwell T., Fraser A.,
RA Golliss M., Connor R., Cronin A., Davis P., Feltwell T., Fraser A.,
RA Golliss M., Connor R., Cronin A., Harris D., Hidalgo J., Hodgson G.,
RA Golliss M., Connor R., Cronin A., Leather S., McDonald S., McLean J.,
RA James K., Jones L., Jones M., Leather S., McDonald S., McLean J.,
RA James K., Jones M., Leather S., McDonald S., McLean J.,
RA Oliver K., C'Nell S., Pearson D., Jonell M.A., Rabbinowitsch E.,
RA Rutherford K., Rutter S., Saunders D., Seeger K., Sharp S.,
RA Rutherford K., Rutter S., Saunders D., Seeger K., Sharp S.,
RA Taylor K., Taylor R.G., Tivey A., Walsh S.V., Warren T., Whitehead S.,
RA Woodward J., Volckaert G., Aert R., Robben J., Grymonprez B.,
RA Gabel C., Fuchs M., Fritzc C., Holzer E., Mosetl D., Hilbert H.,
RA Gabel C., Fuchs M., Fritzc C., Holzer E., Mosetl D., Hilbert H.,
RA Goffeau A., Cadieu E., Dreano S., Glows S., Lelaure V., Mottier S.,
RA Goffeau A., Cadieu E., Dreano S., Glows S., Lelaure V., Mottier S.,
RA Galibert F., Aves S.J., Xiang Z., Hunt C., Moore K., Hurst S.M.,
RA Daga R.R., Cruzado L., Jimenez J., Sanchez M., del Rey F., Benito J.,
RA Daga R.R., Cruzado L., Jimenez J., Sanchez M., del Rey F., Benito J.,
RA Dominguez A., Revuelta J.L., Moreno S., Armstrong J., Forsburg S.L.,
RA Shpakovski G.V., Ussery D., Barrell B.G., Nurse P.,
"The genome sequence of Schizosaccharomyces ponbe.";
RT Nature 415:871-880(2002)
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                                                                                     This SWISS-PROT entry is copyright. It is produced through a collab-
between the Swiss Institute of Bioinformatics and the EMBL outst.
the European Bioinformatics Institute. There are no restrictions of
use by non-profit institutions as long as its content is in a
modified and this statement is not removed. Usage by and for com-
entities requires a license agreement (See http://www.isb-sib.ch/anu
or send an email to license@isb-sib.ch).
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Bukaryota; Fungi; Ascomycota; Schizosaccharomycetes;
Schizosaccharomycetales; Schizosaccharomycetaleae;
Schizosaccharomyces.
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28-FEB-2003
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15-JUL-1998
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                                                                                                                                                                                                                                                                                                                                                       -!- SIMILARITY: Belongs to the allantoate permease family.
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          Z98598; CAB11241.1;
T38034; T38034.
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998 (Rel. 36, Last sequence update)
003 (Rel. 41, Last annotation updat
transporter C1B3.15C.
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                                                                                                                                                                                                                                                                                                                                                                                            LOCATION: Integral membrane protein (Potential).
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41355 MW;
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Pred. No. 0.6;
8; Mismatches 35;
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; B508B1D2E5EE9130
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                                                                                                                                  (See http://www.isb-sib.ch/announce/
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Hypothetical pr
TRANSMEM 157
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                                                                    MEDILINE=97251358; PubMed=9097040; Itoh T., Aiba H., Baba T., Fujita K., Hayashi K., Inada T., Isono K., Kasai H., Kimura S., Kitakawa M., Kitagawa M., Makino K., Miki T., Mizobuchi K., Mori H., Mori T., Motomura K., Nakade S., Nakamura Y., Nashimoto H., Nishio Y., Oshima T., Saito N., Sampei G., Seki Y., Sivasundaram S., Tagami H., Takeda J., Takemoto K., Wada C., Yamamoto Y., Horiuchi T.;
                                                                                                                                                                                                Gregor J.
                                                                                                                                                                                                                                                                                                                                           P76240; 007965; 007967;
15-JUL-1998 (Rel. 36, Created)
15-JUL-1998 (Rel. 36, Last sequence up
10-OCT-2003 (Rel. 42, Last annotation
Hypothetical protein yeaL.
YEAL OR B1789 OR C2194 OR SF1435 OR S1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                  SPECIES=E. coli, STRAIN=K12 / MC1655;
MEDLINE=97426617; PubMed=9278503;
Blattner F.R., Plunkett G. III, Bloch C.A., Per
Riley M., Collado-Vides J., Glasner J.D., Rode
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Escherichia coli 06, and
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                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                             NCBI_TaxID=562,
                                                                                                                                                                                                                                                                                            Enterobacteriaceae; Escherichia
                                                                                                                                                                                                                                                                                                      Bacteria; Proteobacteria;
                                                                                                                                                                                                                                                                                                                 Shigella flexneri.
                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                             YEAL_ECOLI
                                                                                                                                                                           complete genome sequence of Escherichia coli K-12."; nce 277:1453-1474(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   62
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J.,
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380076 MW;
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                                                                                                                                               STRAIN-K12;
                                                                                                                                                                                                                                                                                   217992, 623;
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                                                                                                                                                                                                                                                                                                      Gammaproteobacteria; Enterobacteriales;
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POTENTIAL.
POTENTIAL.
POLY-SER.
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E1040C37445A6D36 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                              148 AA.
                                                                                                                                                                                                                                                                                                                                                                   update)
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                                                                                                                                                                                                                     Perna N.T., Bur
ode C.K., Mayhew
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 628
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                                                                                                                                                                                                                    Burland V., yhew G.F.,
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SPECIES=E.coli; STRAIN=06:H1 / CFT073 / ATCC 700928; MEDLINE=22388234; PubMed=12471157;

SEQUENCE FROM N.A

"A 460-kb DNA sequence of the Escherichia coli K-12 genome corresponding to the 40.1-50.0 min region on the linkage map."; DNA Res. 3:379-392(1996).

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KESULT 2
NHAA ECOLI
RRAP RATE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RANGE RA
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Matches 31
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Takeuchi M., Tamakoshi A., Tanaka T., Terpstra P., Tognoni A.,
Togato V., Uchiyama S., Vandenbol M., Vannier F., Vassarotti A.,
Viari A., Wambutt R., Wedler E., Wedler H., Weitzenegger T.,
Winters P., Wipat A., Yamanoto H., Yamane K., Yasumoto K., Yata K.,
Yoshida K., Yoshikawa H.F., Zummetein E., Yoshikawa H., Danchin A.;
"The complete genome sequence of the Gram-positive bacterium Bacillus subtilis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Transport;
TRANSMEM
TRANSMEM
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SubtiList; BG11916; azlD
InterPro; IPR008407; AzlI
Pfam; PF05437; AzlD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; U93876; AAB80902.1; -.
EMBL; Z99117; CAB14611.1; -.
PIR; H69592; H69592.
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-I- FUNCTION: INVOLVED IN BRANCHED-CHAIN AMINO ACID TRANSPORT.
-I- SUBCELULAR LOCATION: Integral membrane protein (Potential).
-I- SIMILARITY: BELONGS TO THE AZLD/HI1737/HP1330 FAMILY.
                                                                 Padan E.;
Submitted
                                                                                                                                                                                                                                                                                                                                                                   01-JAN-1990 (Rel. 13, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Na(+)/H(+) antiporter 1 (Sodium/proton anti
NHAA OR ANT OR B0019.
Escherichia coli.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NHAA EC
                                                                                                                                                                                                                   SEQUENCE FROM N.A.
MEDLINE=88273145; Pul
Karpel R., Olami Y.,
                                                                                                                                                    MEDIINE=88273145; PubMed=2839489;
Karpel R., Olami Y., Taglicht D., Schuldiner S., Padan Karpel R., Olami Y., Taglicht D., Schuldiner S., Padan "Sequencing of the gene ant which affects the Na+/H+ an activity in Escherichia coli.";
J. Biol. Chem. 263:10408-10414(1988).
                                                                                                                                                                                                                                                                                                                                  Bacteria; Proteobacteria; Gammaproteobacteria;
Enterobacteriaceae; Escherichia.
SEQUENCE FROM N.A
STRAIN=K12;
                                                                                                             REVISIONS
                                                                                                                                                                                                                                                                                                         Enterobacteriaceae;
NCBI_TaxID=562;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Amino-acid transport; Transm
10 30 POTENTIAL.
46 66 POTENTIAL.
                                                                 (FEB-2000)
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27.2%;
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                                                                     EMBL/GenBank/DDBJ databases
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Pred. No. 0.
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MEDLINE=97426617; PubMed=9278503;
Blattner F.R., Plunkett G. III, Bloch C.A., Perna N.T., Burland Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G.F. Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J., Mau B., Shao Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WEDLINE-93165668; PubMed=8381959;
Gerchman Y., Olami Y., Rimon A., Taglicht D., Schuldiner S., Padan E.
Gerchman Y., Olami Y., Rimon A., Taglicht D., Schuldiner S., Padan E.
Gerchman Y., Olami Y., Rimon A., Taglicht D., Schuldiner S., Padan E.
Gerchman Y., Olami Y., Rimon A., Taglicht D., Schuldiner S., Padan E.
Gerchman Y., Olami Y., Rimon A., Taglicht Of NhaA, a Na+/H+ antiporter
in Escherichia coli.";
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-1216(1993).
Proc. Natl. Acad. Sci. U.S.A. 90:1212-
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Isono K., Mizobuchi K., Nakata A.;
"Systematic sequencing of the Escherich
the 0-2.4 min region.";
Nucleic Acids Res. 20:3305-3308(1992).
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Karpel R., Alon T., Glaser G., Schuldiner
"Expression of a soddium proton antiporter
is induced by Na+ and Li+ ions.";
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Taglicht D., Padan E., Schuldiner S.;
"Overproduction and purification of a
coded by nhaA (ant) from Escherichia c
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InterPro; IPR004670; NhaA.
TIGRRPAMs; TIGR00773; NhaA; 1.
Transmembrane; Inner membrane;
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EMBL; D10483; BAB96592.1; -.
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Chem. 266:11289-11294(1991).
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p13739 schizosacch
p76240 escherichia
p44301 haemophilus
p19754 bos taurus
p19763 clostridium
p31224 escherichia
q3jri0 neisseria m
p11636 neurospora
o18983 cercopithec
o00574 homo sapien
optv16 pan troglod
d9jif3 mus musculu
p20f3 pynechocyst
p5096 canis famil
o110924 macaca neme
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q9xt45 bacillus su
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p14753 mus musculu
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p47367 mycoplasma
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p47367 staphylococ
p37660 escherichia
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submitted to the EMBL Data Library, July 1999
A;Description: Pyrococcus abyssi genome sequence: insights into archaeal chromosome stru
A;Reference number: A75001
A;Accession: C75003
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-314 <KAW>
A;Cross-references: GB:AJ248288; GB:AL096836; NID:g5458960; PIDN:CAB50465.1; PID:e151636
A;Experimental source: strain Orsay
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AB1068
                                                                          Na+/H antiporter [imported] - Escherichia coli (strain 0157:H7, substrain RIMD 0509952) C;Species: Escherichia coli C;Species: Bscherichia coli C;Species: 18-Jul-2001 #text_change 03-Aug-2001 C;Pate: 18-Jul-2001 #text_change 03-Aug-2001 C;Accession: A99631 R;Hayashi, T.; Makino, K.; Ohnishi, M.; Kurokawa, K.; Ishii, K.; Yokoyama, K.; Han, C.G gasawara, N.; Yasunaga, T.; Kuhara, S.; Shiba, T.; Hattori, M.; Shinagawa, H. DNA Res. 8, 11-22, 2001
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Nature 413, 848-852, 2001
Nature 413, 848-852, 2001
A;Authors: Parry, C.; Quail, M.; Rutherford, K.; Simmonds, M.; Skelton, J.; Stevens, K.
A;Authors: Parry, C.; Quail, M.; Rutherford, T.; Simmonds, M.; Skelton, J.; Stevens, K.
A;Title: Complete genome sequence of a multiple drug resistant Salmonella enterica sero A;Reference number: AB0502; MUID:21534947; PMID:11677608
A;Accession: AB1068
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A;Title: Complete genome sequence of enterohemorrhagic Escherichia coli 0157:H7 and A;Reference number: A99629; MUID:21156231; PMID:11258796 A;Accession: A99631
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A; Residues: 1-394 < PAR>
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Matches 20; Conserv
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;Gene: STY4872
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Pred. No. 1.4;
17; Mismatches 26; Indels
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A;Molecule type: DNA
A;Residues: 1-388 <HAY>
A;Residues: 1-388 <HAY>
A;Cross-references: GB:BA000007; PIDN:BAB33440.1; PID:g13359473; GSPDB:GN00154
A;Experimental source: strain O157:H7, substrain RIMD 0509952
A;Gene: EC60017
C;Superfamily: Na+/H+-exchanging protein nhaA
Search completed: April 16, Job time: 10.4234 secs
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Best Local S
Matches 27
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                                                                               192 AVLAVLNICGVRRT-----
                                                                                                                                                                                             18 ITFALRAVPFLILK-PLRESQFVGKMAMMMPAGILAILTASTFRSNAIDLKTLTFGLIAV 76
                                                                                                                    77 AITVVAHLLGGRRTLLSVGAGTIVFVGLV 105
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27; Conserv
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R;Murphy, L.; Harris, D.; Barrell, B.G.; Rajandream, submitted to the EMBL Data Library, August 1997
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C;Species: Schizosaccharomyces pombe
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 03-Dec-1999
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A;Molecule type: DNA
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A; Accession: T38034
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RESULT 11
B90941
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A;Title: The complete genome sequence of Escherichia coli K-12.
A;Reference number: A64720; MUID:97426617; PMID:9278503
A;Accession: E64939
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Residues: 1-148 <BLAT>;Residues: 1-148 <BLAT>;Cross-references: GB:AE000274; GB:U00096; NID:g1788089; PIDN:AAC74859.1; PID:g1788090;
Cross-references: GB:AE000274; GB:U00096; NID:g1788089; PIDN:AAC74859.1; PID:g1788090;
;Experimental source: strain K-12; substrain MG1655
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pothetical protein b1789 - Escherichia coli (strain K-12)
Species: Escherichia coli
;Date: 12-Sep-1997 #sequence_revision 17-Sep-1997 #text_change
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Accession:
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                                                                                                              -GLIAVAITVVAHLLGGRRTLL-----
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ilarity 29.2%;
Conservative
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                                                                                                                                                                                                                         Score 79; DB 2; Length 148 Pred. No. 0.71; on Mismatches 49; Indels
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Pred. No. 2.1;
                                                                                                                                                                                                                                                                                                                                                                                           sequence not shown; translation not
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hypothetical protein ECs2498 [imported] - Escherichia coli (strain O157:H7, C;Species: Escherichia coli (c;Species: Escherichia coli (c;Species: Bscherichia coli (c;Date: 18-Jul-2001 #text_change 03-Aug-2001 C;Date: 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change 03-Aug-2001 C;Accession: B90941 R;Hayashi, T; kakino, K.; Ohnishi, M.; Kurokawa, K.; Ishii, K.; Yokoyama, F gasawara, N.; Yasunaga, T.; Kuhara, S.; Shiba, T.; Hattori, M.; Shinagawa, F DNA, Res. B, 11-22, 2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Molecule type: DNA
A;Residues: 1-148 <HAY>
A;Residues: 1-148 <HAY>
A;Cross-references: GB:BA000007; PIDN:BAB35921.1;
A;Experimental source: strain O157:H7, substrain F
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Title: Complete genome sequence of enterohemorrhagic Escherichia coli O157:H7 A;Reference number: A99629; MUID:21156231; PMID:11258796 A;Accession: B90941
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C;Superfamily: hypothetical protein ytwI
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C;Species: Escherichia coli
C;Date: 16-Feb-2001 #sequence_revision 16-Feb-2001 #text_change 14-Sep-2001
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na+/ca+ exchanging protein related PAB1029 - Pyrococcus abyssi (strain Orsay) C;Species: Pyrococcus abyssi (c;Date: 20-Aug-1999 #sequence_revision 20-Aug-1999 #text_change 20-Aug-1999 C;Accession: C75003 #sequence_revision 20-Aug-1999 #text_change 20-Aug-1999 R;anonymous, Genoscope
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C75003
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Nature 409, 529-533, 2001
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Best Local S
Matches 27
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Best Local
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27; Conserv
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larity 22.5%;
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Pred. No.
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Pred. No. 0.71;
?0; Mismatches
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RIMD 0509952
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                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 148;
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Potamousis, K.; Ap
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A;Residues: 1-388 <BLAT>
A;Cross-references: GB:AE000112; GB:U00096; NID:g1786192; PIDN:AAC73130.1; PID:g1786201; A;Experimental source: strain K-12, substrain MG1655 R;Karpel, R.; Alon, T.; Glaser, G.; Schuldiner, S.; Padan, E.
J. Biol. Chem. 266, 21753-21759, 1991
A;Title: Expression of a sodium proton antiporter (NhaA) in Escherichia coli is induced A;Reference number: A41201; MUID:92042080; PMID:1657980
A;Accession: A41201
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A; Title: The complete genome sequence of B:
A; Reference number: A64720; MUID:97426617;
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C;Superfamily: Na+/H+-exchanging protein nhaA
C;Superfamily: Na+/H+-exchanging protein nhaA
C;Keywords: sodium transport; transmembrane protein
F;12-28/Domain: transmembrane #status predicted <TM1>
F;59-75/Domain: transmembrane #status predicted <TM3>
F;98-114/Domain: transmembrane #status predicted <TM3-
F;98-114/Domain: transmembrane #status predicted <TM3-
F;98-114/Domain: transmembrane #status predicted <TM3-
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A;Residues: 26-388 < YUR>
A;Residues: 26-388 < YUR>
A;Cross-references: EMBL:D10483; NID:g216434; PIDN:BAA01296.1; PID:g216445
A;Cross-references: EMBL:D10483; NID:g216434; PIDN:BAA01296.1; PID:g216445
R;Karpel, R.; Olami, Y.; Taglicht, D.; Schuldiner, S.; Padan, E.
J. Biol. Chem. 263, 10408-10414, 1988
J. Biol. Chem. 263, 10408-10414, 1988
J. Biol. Chem. 263, 10408-10414, 1988
J. Fitle: Sequencing of the gene ant which affects the Na+/H+ antiporter activity A;Reference number: A28800; MUID:88273145; PMID:2839489
A;Accession: A28800
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R;YURA, T.; Mori, H.; Nagal, H.; Nagata, T.; Ishihama, A.; Pujita, N.; Isono, K.;
Submitted to the EMBL Data Library, December 1992
A;Description: Systematic sequencing of the Escherichia coli genome: analysis of
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RESULT
C95963
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A;Residues: 26-44,'RFTRL',50,'H',52,'KSS',57-388 <KA2:
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A; Accession: S40541
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7)155-171/Domain: transmembrane #status predicted <TM5>
7)181-197/Domain: transmembrane #status predicted <TM6>
7)205-221/Domain: transmembrane #status predicted <TM6>
7)205-239/Domain: transmembrane #status predicted <TM7>
7)232-239/Domain: transmembrane #status predicted <TM9>
7)24-270/Domain: transmembrane #status predicted <TM9>
7)254-270/Domain: transmembrane #status predicted <TM10-
7)268-344/Domain: transmembrane #status predicted <TM10-
7)328-344/Domain: transmembrane #status predicted <TM110-
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;Residues: 1-388 <B
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Best Local S
Matches 27
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;Molecule type: DNA
;Residues: 1-28 <KAR>
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18; Mismatches
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7; PMID:9278503
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A;Gene:

Local Similarity

15.2%;

Score 80; Pred. No.

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A;Residues 1-345 xKRs A;Cross-references: GB:AL591985; PIDN:CAC49371.1; PID:g15140857; GSPDB:GN00167 A;Cxoss-references: GB:AL591985; PIDN:CAC49371.1; PID:g15140857; GSPDB:GN00167 A;Experimental source: strain 1021, megaplasmid pSymB A;Experimental source: strain 1021, megaplasmid pSymB A;Abola, P.; Ampe, F.; Barlo Pela, D.; Chain, P.; Cowie, R.; Puhler, A.; Abola, P.; Ampe, F.; Barlo Pela, D.; Chain, P.; Cowie, A.; Davis, R.W.; Dreano, S.; Federspiel, N.A.; Fish L.; Hyman, R.W.; Jones, T. Science 293, 668-672, 2001
A;Authors: Kahn, D.; Kahn, M.L.; Kalman, S.; Keating, D.H.; Kiss, E.; Komp, C.; hebault, P.; Vandenbol, M.; Vorholter, F.J.; Weidner, S.; Wells, D.H.; Wong, K. A;Title: The composite genome of the legume symbiont Sinorhizobium meliloti. A;Reference number: A96039; MUID:21368234; PMID:11474104
A;Contents: annotation
C;Genetics:
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A;Title: The complete sequence of the 1,683-kb pSymB megaplasmid A;Reference number: A95842; MUID:21396508; PMID:11481431
A;Accession: C95963
                                                                        A;Cross-references GB:AB003944; GB:AB003849; NID:g9106023; PIDN:AAF83891.1; GSPDB:GN001
A;Experimental source: strain 9a5c
A;Experimental source: strain 9a5c
A;Experimental source: strain 9a5c
A;Experimental source: strain 9a5c
A;Experimental source: strain 9a5c
A;Simpson, A.J.G; Reinach, F.C.; Arruda, P.; Abreu, F.A.; Acencio, M.; Alvarenga, R.; A Briones, M.R.S.; Beano, M.R.P.; Camargo, A.A.; Camargo, L.E.A.; Carraro, D.M.; Carrer, H. Bariones, M.R.S.; Beano, M.R.P.; Camargo, A.A.; Camargo, L.E.A.; Carraro, D.M.; Carrer, H. Bariones, E.C.; Franco, M.C.; Frohm J.D.; Docena, C., El-Dorry, H.; Fraga, J.S.; Franca, S.C.; Franco, M.C.; Frohm J.D.; Junqueira, M.L.; Kemper, E.L.; Kitajima, J.P.; Krieger, J.E.; Kuramae, E.E.; Laigr Chado, M.A.; Madeira, M.M.B.N.; Madeira, H.M.F.; Marrino, C.L.; Marques, M.V.; Martins, E.M.F.; Matsukuma, A.Y.; Menck, C.F.M.; Miracca, E.C.; Miyaki, C.Y.; F.G.; Nunes, L.R.; Oliveira, M.A.; de Oliveira, M.C.; de Oliveira, R.C.; Palmieri, D.A.; F.G.; Nunes, L.R.; Oliveira, M.A.; de Colsa, T.V.E.; de Sa, R.G.; Santelli, R.V.; Sawasak A,Authors: da Silva, A.C.R.; da Silva, F.R.; da Silva, A.M.; Silva Jr., W.A.; da Silveira, M.F.; Mardina, S.; Vettore, A.L.; Z. M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; M.F.; 
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R;anonymous, The Xylella fastidiosa Consortium of the Organization for Nucleotide Sequer. R;anonymous, The Xylella fastidiosa Consortium of the Organization for Nucleotide Sequer. Rature 406, 151-157, 2000

R;Title: The genome sequence of the plant pathogen Xylella fastidiosa. A;Reference number: A82515; MUID:20365717; PMID:10910347

A;Note: for a complete list of authors see reference number A59328 below

A;Accession: F82726
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A;Genome: plasmi
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A;Residues: 1-589 <SIM>
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Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 20-Aug-2000;Date: 18-Aug-2000
Contents: annotation
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24.8%; Pred. No. 1.1;
tive 16; Mismatches
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N.A.; Fisher, R.F.;
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pominguez-Bernal, G.; Duchaud, E.; Durand, L.; Daguero, F.; B.; Jones, L.M.; Karst, U.

Science 294, 849-852, 2001

A; Authors: Kreft, J.; Kuhn, M.; Kunst, F.; Kurapkat, G.; Madueno, E.; ok, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J.A.; A; Title: Comparative genomics of Listeria species.

A; Reference number: AB1077; MUID:21537279; PMID:11679669

A; Status: preliminary
A; Molecule type; NM*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R;Bolotin, A.; Wincker, P.; Mauger, S.; Jaillon, O.; Malarme, K.; Weissenbach, J.; Ehrli Genome Res. 11, 731-753, 2001
A;Title: The complete genome sequence of the lactic acid bacterium Lactococcus lactis se A;Reference number: A86625; MUID:21235186; PMID:11337471
A;Accession: D86826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A/Experimental source: strain C/Genetics: A/Gene: yqfC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   hypothetical protein lin1481 [imported] - Listeria innocua (strain Clip11262) C;Species: Listeria innocua (crain Clip11262) C;Species: Listeria innocua (crain Clip11262) C;Date: 27-Nov-2001 #sequence_revision 27-Nov-2001 #text_change 27-Nov-2001 C;Accession: AH1617 C;Accession: AH1617 R;Glaser, P.; Frangeul, L.; Buchrieser, C.; Amend, A.; Baquero, F.; Berche, P.; Cominguez-Bernal, G.; Duchaud, E.; Durand, L.; Dussurget, O.; Entian, K.D.; Dominguez-Bernal, G.; Duchaud, E.; Durand, L.; Dussurget, O.; Entian, K.D.
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A; Residues: 1-108 <STO>
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C;Species: Lactococcus lactis subsp. lactis
C;Date: 23-Mar-2001 #sequence_revision 23-Mar-2001 #text_change 03-Aug-2001
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Best Local S
Matches 32
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                                                                                                                                                                                                                                                                                                                     ,Molecule type: DNA
,Molecule type: GLA's
,Cross-references: GB:AL592022; PIDN:CAC96712.1;
,Experimental source: strain Clip11262
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Best Local :
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                                                                                                                                   9 LLVVAVCAVITFALRAVPFLILKPLRESQFVGKMAMMMPAGIL-AILTASTFRSNAIDLK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAIDLKTLTF-GLIAVAITVVAHLLGGRRTLLSVGAGTIVFVGLVNL 107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SSFEFISLTIIGCALVTWISRVLPFILLKKMSLPQIVVEYLSFVPVVIMSALWISNLFIQ
  SINIENLLATLPTIIT-
                                            TLTF-GLIAVAITVVAHLLGGRRTLLSVGAGTIVFVGLVNL
                                                                                              LLVILGCGLVTFIPRVLPFIFVRKLQLPSVVIRYLSYVPLCILTALFVQSLLITNENSFP
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Pred.
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Pred. No. 0.15;
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    AILTKNLMWİVIVGIISM 101
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No. 0.015;
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Voss, H.; W
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Fsihi, H.
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RESULT

RESULT C64722

Na+/H+-exchanging protein nhaA - Esci N;Alternate names: Na+/H+ antiporter

Escherichia coli

(strain K-12)

coli

C;Species:

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R;Nierman, W.C.; Feldblyum, T.V.; Paulsen, I.T.; Nelson, K.E.; Eisen, J.; Heidelberg, J. B.; Laub, M.T.; DeBoy, R.T.; Dodson, R.J.; Durkin, A.S.; Gwinn, M.L.; Haft, D.H.; Kolor J.; Ermolaeva, M.; White, O.; Salzberg, S.L.; Shapiro, L.; Venter, J.C.; Fraser, C.M. Proc. Natl. Acad. Sci. U.S.A. 98, 4136-4141, 2001
A;Title: Complete Genome Sequence of Caulobacter crescentus.
A;Reference number: A87249; MUID:21173698; PMID:11259647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Science 294, 849-852, 2001

A; Authors: Kreft, J.; Kuhn, M.; Kunst, F.; Kurapkat, G.; Madueno, E.; Maitournam, A.; Maok, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J.A.; Voss, H.; Wehland, A; Title: Comparative genomics of Listeria species.

A; Reference number: AB1077; MUID:21537279; PMID:11679669

A; Accession: AC1255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               hypothetical protein lmo1443 [imported] - Listeria monocytogenes (strain EGD-e) C;Species: Listeria monocytogenes C;Species: Listeria monocytogenes C;Date: 27-Nov-2001 #sequence_revision 27-Nov-2001 #text_change 27-Nov-2001 C;Accession: AC125 R;Glaser, P; Frangeul, L.; Buchrieser, C.; Amend, A.; Baquero, F.; Berche, P.; Doninguez-Bernal, G.; Duchaud, E.; Durand, L.; Dussurget, O.; Entian, K.D.; F. Durand, L.; Dussurget, O.; Entian, K.D.; F. Durand, L.; Dussurget, O.; Entian, K.D.; F. Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E.; Durand, E
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AC1255
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A,Molecule type: DNA
A,Residues: 1-407 <STO>
A,Cross-references: GB:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Molecule type: DNA
A;Residues: 1-108 <GLA>
A;Cross-references: GB:NC 003210; PIDN:CAC99521.1; PID:g16410872; GSPDB:GN00177
A;Experimental source: strain EGD-e
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Date: 20-Apr-2001 #sequence_revision 20-Apr-2001 #text_change 20-Apr-2001;
Accession: D87534
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Best Local :
                                                                                                                                                                                                                                                                                                       Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            54 LTASTERSNAIDLKTLTFGLIAVAITVVAHLLGGRRTLLSVGAGTIVFVG
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29; Conserv
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                                                                   LKTLTFG-----LIAVAITVVAHLLGGRRTLLSVGAGTIVFVGLVNLF 108
                                                                                                                                                                                                                               SCILLVVAVCAVITFALRAVPFLILKPLRESQFVGKMAMMPAGILAILTASTFRSNAID 65
RENSFPGINIENLLASLPTIITAIL--TKNLMWIVVVGIISMALIRLF 107
                                                                                                                                                        SYTLEVIIGCGLVTFIPRVLPFIEVRKLQLPDVVIRYLSYVP---LCILTALEVQSLLIT 61
                                                                                                                                                                                                                                                                                                                    Conservative
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                                                                                                                                                                                                                                                                                                                                                      15.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15.9%;
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Pred. No. 0.63
20; Mismatches
                                                                                                                                                                                                                                                                                                                                                      Score 83; DB 2
Pred. No. 0.21;
                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                            DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   63;
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                                                                                                                                                                                                                                                                                                                    46;
                                                                                                                                                                                                                                                                                                                                                                                                Length 108
                                                                                                                                                                                                                                                                                                                    Indels
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Fsihi, H.
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GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.

1 96.5 2 94.5 3 84.5 4 83.5 6 81.5 7 80.5 11.0 9 80 10.0 10.0 11.1 11.0	B Greate Greate Greate Greate	Post-processing: M L Database : P 2: 3:	Total number of hits Minimum DB seq lengtl Maximum DB seq lengtl	Scoring table: BL Ga Searched: 28	Title: US Perfect score: 52 Sequence: 1	OM protein - protein Run on:
A A A A A A A A A A A A A A A A A A A	the n than ed by	inimum Ma aximum Ma isting fi isting:* pir1:* pir2:* pir3:* pir4:*	gatis 1: 0 1: 200	BLOSUM62 Gapop 10.0 283366 seqs	MTTDFSCIL	searc l 16,
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H69592 D86826 AH1617 D87334 D87326 C6471255 C95563 C95963 T38034 E64439 E64439 E64439 E64439 E64439 E64439 E64439 E64439 E64439 E64439 AB1066	results predicted by chance to the score of the result in of the total score distributions. SUMMARIES ID Definition of the predicted by chance to the result in the res	% 00% 5 summaries	chosen parameters: 28	ext 0.5 91526 residues	608-504-5 FSCILLVVAVCAVITFRTLLSVGAGTIVFVGLVNLF	sw model :51:17 ; Search time (without al) 1233.313 Mi
anched-chain a pothetical propothetical protections and protection and protectio	ce to have a lt being printed, bution.		83366		IVFVGLVNLF 108	8.4234 Seconds ignments) llion cell updates/sec

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71.5	71.5	71.5	71.5	71.5	71.5	72	72	72.5	72.5	72.5	73	73	73.5	73.5	73.5
	•	13.6	٠		13.6	13.7	13.7	13.8	13.8	13.8	13.9	13.9	14.0	4	
395	351	297	286	104	101	537	227	461	461	156	409	405	1049	1049	1049
N	2	N	ผ	N	N	N	N	N	N	N	N	N	N	N	N
A82827	T44798	A83049	C71059	C97608	AF2830	G31277	G81014	B81080	E81862	B84227	F98347	AI2934	G85543	C90693	B36938
conserved hypothe	iron transport mem	hypothetical prote		hypothetical prote	conserved hypothe	quinate transport	conserved hypother	drug resistance tr	probable integral	hypothetical prot	probable transpor	chromate transport	acridine efflux pu		acriflavin resista

ALIGNMENTS

- 2	ATPase related to	Н96939	N	443	14.0	73.5	ö
	probable Na+/Ca2+-	D71159	N	325	14.1	74	œ
שט	sugar ABC transpor	A83940	N	324	14.1	74	ű
!	uncharacterized me	A97344	N	171	14.1	74	õ
\$	GumG protein - Xan	S67856	N	379	14.2	74.5	Ü
,	adenylate cyclase	A41350	N	1134	14.3	75	4
Matche	hypothetical prote	C97487	ν	923	14.3	75	ω
Best L	conserved hypothet	AC2705	N	923	14.3	75	N
Query	hypothetical prote	F72623	N	182	14.4	75.5	۳
,	branched-chain ami	臣64041	۲	109	14.4	75.5	0
C; Keywor	glutathione-regula	B82056	N	656	14.4	76	9
C,Supert	hypothetical prote	T35134	N	102	14.4	76	œ
A;Gene:	cytochrome-c oxida	D48364	N	235	14.7	77.5	7
C;Geneta	Na+/H antiporter,	A85482	N	388	14.9	78.5	σ
A; Experi	Na+/H antiporter [A99631	N	388	14.9	78.5	v
A;Cross-	probable membrane	AB1068	N	394	15.0	79	4.
A;Residu	na+/ca+ exchanging	C75003	N	314	15.0	79	ω
A, Molecu	hypothetical prote	F85789	N	148	15.0	79	N
A;Status	hypothetical prote	B90941	N	148	15.0	79	۳
A; Access	hypothetical prote	E64939	N	148	15.0	79	0
A; Refere	probable transport	T38034	N	628	15.2	80	φ
A; Title:	ABC transporter AT	F82726	N	589	15.2	80	00
J. Bacte	conserved hypothet	C95963	N	345	15.3	80.5	7
R;Belits.	Na+/H+-exchanging	C64722	N	388	15.5	81.5	9
A; Experi	hypothetical prote	AC1255	N	108	15.8	83	5
A; Cross-	hypothetical prote	D87534	N	407	15.9	83.5	4
A; Residu	hypothetical prote	AH1617	N	108	16.1	84.5	ω
A; Molecu	hypothetical prote	D86826	N	108	18.0	94.5	N
A;Status	branched-chain ami	H69592	μ	110	18.3	96.5	μ
A; Access							ŀ
A; Refere	Description	ID	B	Match Length DB	Match	Score	•
A; Title:					Ouerv		rt
).);					•		

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branched-chain amino acid transport protein azlD - Bacillus subtilis

C;Species: Bacillus subtilis
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 28-Jul-2003
C;Accession: H69592; T44778
R;Kunst, F.; Ogasawara, N.; Moszer, I.; Albertini, A.M.; Alloni, G.; Azevedo, V.; Berte: R;Kunst, F.; Ogasawara, N.; Moszer, T.; Albertini, A.M.; Alloni, G.; Azevedo, V.; Berte: R;Kunst, F.; Ogasawara, N.; Moszer, I.; Albertini, K.D.; Exrington, J.; Fabret, C.; Ferrari, E. A.; Ehrlich, S.D.; Emmerson, P.T.; Entian, K.D.; Exrington, J.; Fabret, C.; Ferrari, E. Nature 390, 249-256, 1997
A;Authors: Foulger, D.; Fritz, C.; Fujita, M.; Fujita, Y.; Fuma, S.; Galizzi, A.; Galle: A;Authors: Foulger, D.; Fritz, C.; Fujita, M.; Fujita, Y.; Fuma, S.; Galizzi, A.; Galle: Koetter, P.; Koningstein, G.; Krogh, S.; Kumano, M.; Kurita, K.; Lapidus, A.; Lardinois, A;Authors: Lauber, J.; Lazarevic, V.; Lee, S.M.; Levine, A.; Liu, H.; Masuda, S.; Maueel Y. M.; Ogawa, K.; Ogiwara, A.; Oudega, B.; Park, S.H.; Parro, V.; Pohl, T.M.; Porteelle Rieger, M.; Rivolta, C.; Rocha, E.; Roche, B.; Rose, M.; Sadaie, Y.; Sato, T.; Scanlon, A;Authors: Schleich, S.; Schroeter, R.; Scoffone, F.; Sekiguchi, J.; Sekowaka, A.; Seroi akeuchi, M.; Tamakoshi, A.; Tanaka, T.; Terpstra, P.; Tognoni, A.; Tosato, V.; Uchiyama, T.; Winters, P.; Wipat, A.; Yamamoto, H.; Yamane, K.; Yasumoto, K.; Yata, K.; Yoshida, F.; A;Accession; H69592
A;Cters. MulDi: 98044033; PMID: 984377
A;Cters. Muldi: Assertion not shown

s; nucleic acid sequence not shown; translation not shown

ile type: DNA

s-references: GB.299117; GB:AL009126; NID:g2634966; PIDN:CAB14611.1; PID:g2635115; idental source: strain 168; Sonenshein, A.L.; von Wachenfeldt, C. :sky, B.R.; Gustafsson, M.C.U.; Sonenshein, A.L.; von Wachenfeldt, C. :rariol. 179, 5448-5457, 1997; an 1rp-like gene of Bacillus subtilis involved in branched-chain amino acid tracence number: Z22837; MUID:97431495; PMID:9287000

s: translated from GB/EMBL/DDBJ

ule type: DNA ues: 1-110 <BEL> -references: EMBL:Y11043; NID:g1926275; PIDN:CAA71941.1; PID:g1926282 -mental source: strain 1Al

family: branched-chain amino acid transport protein, AzlD typerds: branched-chain amino acid transport; transmembrane protein

Match Local Similarity Conservative 18.3%; Score 96.5; DB 1; Length 110; 27.2%; Pred. No. 0.0095; ative 28; Mismatches 42; Indels 1: Indels 13; Gaps 6

Search dob time	дb	γ	ф
Search completed: April 16, 2004, 07:03:20 Job time : 9.52089 secs	62 NWLTSFGITMTÅNLLISWSAGGTFASYMIVSÅFTLVFV 99	71 FGLIAVAITVVAHLLGGRRTLLSYGAGTIVFV 102	23 VVAYVIAPSFGMGAIPWIIMSEILPVSIKSLAGSFATLA 61

92

LSVGAGTIVE-----VGLVNLF 108

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 13
US-60-556-841-2298
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Sorghum bicolor
FEATURE:
OTHER INFORMATION: Clone ID: SORBI-28MAY03-C65105_1.pep
US-10-767-701-40503
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밁
                                      S
                                                                                                                                                                                                                                                                     ; ORGANISM: Pseudomonas putida KT2440
US-60-556-841-2298
                                                                                                                                                                              Query Match
Best Local S
Matches 30
                                                                                                                                                                                                                                                                                                                               Sequence 2298, Application US/60556841

GENERAL INFORMATION:
APPLICANT: Abad, Mark S.
TITLE OF INVENTION: Genes and Uses for Plant Improvement
FILE REFERENCE: 38-21(53450)
CURRENT APPLICATION NUMBER: US/60/556,841
CURRENT FILING DATE: 2004-03-25
NUMBER OF SEQ ID NOS: 12463
SEQ ID NO 2298
LENGTH: 475
TYPE: NOT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 40503, Application US/10767701 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 13.0%; Score 68.5; DB 6; Length 119; Best Local Similarity 30.8%; Pred. No. 0.57; Matches 33; Conservative 15; Mismatches 26; Indels 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQ ID NO 40503
LENGTH: 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nuclecic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21 (53535)B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Kovalic,
                                                                                  131 CA--SLLLWSVHFLVLRGIXBAAFINQVTTVAKVVPLLIFVVIAAFAFRADIFTRDIWGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  163 IIAGIGIÍFFGFGNGGDAIGÍSNÍW 187
189 SNPQFGSVLEQVRNMMLVTVFVFIGIEGASVYSGRAQRRSDVGKATVIGFLGVLAL 244
                                                                                                            15 CAVITFALRAVPFLILKPLRESQFVGK---MAMMMPAGILAILTASTFRSNAI-----DL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          66 LKTLTFGLIAVAITVVAHLL-----GGRRTLLS---VGAGTIVFVGL 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8 ILLVVAVCAVITFA--LRAVPFLILKPLRESQFVGKMAMWMPAGILAILTASTFRSNAID 65
                                                                                                                                                                                                    Similarity
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                                                                                                                                                                           13.0%; Score 68.5; DB 7; Length 475; llarity 25.9%; Pred. No. 2.9; Conservative 24; Mismatches 37; Indels 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     David K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                26; Indels 33;
                                                                                                                                                                                25;
                                                                                                                                                                              Gaps
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                                                                                            188
                                                                                                                                     66
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US-10-779-543-23512 ; Sequence 23512, Application US/10779543 ; GENERAL INFORMATION: ; APPLICANT: Williams et al

Ś

11 VVAVCAVITFALRAVPFLILKPLRESQFVGKMAMWMPAGILAILTASTFRSNAIDLKTLT 70

Query Match Best Local S Matches 26

Local Similarity es 26; Conserv

Conservative

15;

Mismatches

Indels

.74; DB 6;

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FILE REFERENCE: 2300-21302
CURRENT APPLICATION NUMBER: US/10/779,543
CURRENT FILING DATE: 2004-02-12
PRIOR APPLICATION NUMBER: 10/076,555
PRIOR APPLICATION NUMBER: 10/076,555
PRIOR APPLICATION NUMBER: 10/076,555
PRIOR APPLICATION NUMBER: 10/076,555
PRIOR APPLICATION NUMBER: 09/217,471
PRIOR APPLICATION NUMBER: 09/217,471
PRIOR APPLICATION NUMBER: 09/08,755
PRIOR APPLICATION NUMBER: 60/08,755
PRIOR PILING DATE: 199-12-23
PRIOR PILING DATE: 199-12-23
PRIOR PILING DATE: 1998-04-03
PRIOR PILING DATE: 1998-04-03
PRIOR APPLICATION NUMBER: 60/105,234
PRIOR APPLICATION NUMBER: 60/05,234
PRIOR APPLICATION NUMBER: 09/297,648
PRIOR APPLICATION NUMBER: 09/297,648
PRIOR PILING DATE: 1998-01-28
PRIOR PILING DATE: 1999-01-28
PRIOR APPLICATION NUMBER: 60/072,910
PRIOR APPLICATION NUMBER: 60/075,954
PRIOR APPLICATION NUMBER: 60/075,954
PRIOR APPLICATION NUMBER: 60/080,114
PRIOR APPLICATION NUMBER: 60/080,114
PRIOR APPLICATION NUMBER: 60/080,114
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PRIOR APPLICATION NUMBER: 60/080,114
PRIOR APPLICATION NUMBER: 60/080,114
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PRIOR APPLICATION NUMBER: 60/08
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                                                                                                            ; OTHER INFORMATION: Clone ID: SCRBI-28MAY03-C71332_1.pep US-10-767-701-43433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 15
US-10-767-701-43433
                                                                                                                                                                                                                                                                                                              Sequence 43433, Application US/10767701
GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
APPLICANT: Cao, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(53535)B
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 43433
TAMORTH. 110
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Best Local Similarity
Matches 22; Conserv
                                                                                                                                                                                  TYPE: PRT
ORGANISM: Sorghum bicolor
FEATURE:
                                                                                                                                                                                                                                                                                                   LENGTH: 119
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    224 VLKSVGFQSNEAASLASTGVGVVKVISTIPATLLVDHVGSKTFLCIGSSVMAASLVTMGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            284 VNL 286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      53 ILTASTFRSN-AIDLKTLTFGLIAVAITVVAHLL---GGRRTLLSVG----AGTIVFVGL 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12.9%;
ilarity 34.9%;
Conservative 1
12.8%;
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Pred. No. 3.8;
13; Mismatches
   Score 67.5;
Pred. No. 0.
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                                          Length 119;
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Wendy S. Halsey

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; ORGANISM: HOMO SAPIENS
US-10-667-762-76
                                                                          RESULT 10
US-10-787-018-9
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                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                 Query Match
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SEQ ID NO 76
                                       Sequence 9, Applicat GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION NUMBER: US/10/407,386
PRIOR FILING DATE: 2003-04-04
PRIOR PPLICATION NUMBER: US/10/278,107
PRIOR FILING DATE: 2002-10-21
PRIOR APPLICATION NUMBER: US/10/125/749
PRIOR FILING DATE: 2002-04-18
PRIOR FILING DATE: 2002-04-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: US/09/988,922
PRIOR FILING DATE: 2001-11-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION NUMBER: US/10/667,762
CURRENT FILING DATE: 2003-09-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: HUMAN G PROTEIN-COUPLED RECEPTOR TITLE OF INVENTION: POLYPEPTIDES AND POLYNUCLEOTIDES FILE REFERENCE: GP-70775B-C1
APPLICANT: Gosling, Jennifa
APPLICANT: Dairaghi, Danie
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                                                                                                                                                                                                                                                                                                                Local Similarity
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6
                                                                                                                                                  96 VFGQVMCKSLLGIYTINFYTSMLILTCITV 125
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                                                                                                                                                                                 LTASTFRSNAIDLKTLTF---GLIAVAITY 80
                                                                                                                                                                                                                      CMYLVVFVCGLVGNSLVLVISIFYHKLQSLTDVFLVNLFLADLVFVCTLFFWAYAGIHEW 95
                                                                                                                                                                                                                                                           CILLVVAVCAVITFALRAV------PFLILKPLRESQFVGKMAMMMPAGILAI
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John W. Quillen, Jr.
Erin M. Toland
Steven Michael Foord
                                                        Application US/10787018
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Stephane Clement Krief
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George H. Poste
Michel Louis Souchet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Catherine E. Ellis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pankaj Agarwal
Randall Forrest Smith
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           David Malcolm Duckworth Jeffrey Hill
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Menelas N. Pang
Melanie Robbins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Derk J. Bergsma
Nabil A. Elshourbagy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Alison Isobel Muir
Philip Graham Szekeres
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Alexander Taylor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            an Ngoc Trinh
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                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                37;
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Dairaghi, Daniel J. Hanley, Michael

103 MSEIIAVGSYTKYWFPDLPAWIPGIVAMVILGAANLISVKSFGEFEFWFAMIKIVTIILM 162

50 43

ILAILTASTFRSNAI-DLKTLTFGLIAVAITVVAHLLGGRR---

----TL 91

VLLAYAICGIFİFFIMRAMGEMLYVEPSTGSFATFGHQYIHPMAGYITAMSNWFQWIIVG 102

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ORGANISM: Bacillus subtilis subsp. subtilis str. 168
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APPLICANT: Schall, Thomas J.
APPLICANT: Schall, Thomas J.
APPLICANT: ChemoCentryx, Inc.
TITLE OF INVENTION: Chemokine Receptor
TITLE OF INVENTION: Chemokine Receptor
TITLE OF INVENTION: CHEMOKINE US/10/787,018
CURRENT APPLICATION NUMBER: US/09/721,495
PRIOR APPLICATION NUMBER: US/09/721,495
PRIOR APPLICATION NUMBER: US 60/159,015
PRIOR PILING DATE: 1999-10-12
PRIOR APPLICATION NUMBER: US 60/159,210
PRIOR APPLICATION NUMBER: US 60/159,210
PRIOR APPLICATION NUMBER: US 60/172,979
PRIOR FILING DATE: 1999-10-13
PRIOR APPLICATION NUMBER: US 60/172,979
PRIOR FILING DATE: 1999-10-13
PRIOR APPLICATION NUMBER: US 60/172,979
PRIOR FILING DATE: 1999-10-13
                                                                                                                                                                                                CURRENT APPLICATION NUMBER: US/60/556,841
CURRENT FILING DATE: 2004-03-25
NUMBER OF SEQ ID NOS: 12463
SEQ ID NO 11117
LENGTH: 462
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SEQ ID NO 9
LENGTH: 342
                                            Best Loc
Matches
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Best Local Similarity
                                                                                    Query Match
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TITLE OF INVENTION: Genes and Uses for Plant Improvement
FILE REFERENCE: 38-21 (53450)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQ ID NOS: 14
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PRIOR APPLICATION NUMBER: US 09/686,019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION NUMBER: US 60/173,388 PRIOR FILING DATE: 1999-12-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: US 60/186,626
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ORGANISM: Homo sapiens
                                                                                                                                                                                  TYPE: PRT
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                                       y Match 13.1%; Score 69; DB 7; Length 462;
Local Similarity 22.1%; Pred. No. 2.4;
hes 32; Conservative 24; Mismatches 45; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96 VEGQVMCKSLLGIYTINFYTSMLILTCITV 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           36 CMYLVVFVCGLVGNSLVLVISIFYHKLQSLTDVFLVNLFLADLVFVCTLPFWAYAGIHEW 95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         25;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 70; DB 6; Length 342; Pred. No. 1.3;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-417-884A-5593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 5593, Application US/10417884A GENERAL INFORMATION:
APPLICANT: Lynn A Doucette-Stamm
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                                                                                                                                                                                                     INFORMATION FOR SEQ ID NO: 5593:
                                                                                                                                                                                                                  FILING DATE: 30-Jun-1998
APPLICATION NUMBER: 60/085,598
FILING DATE: 14 May 1998
APPLICATION NUMBER: 60/051571
FILING DATE: 14 May 1997
AFTORNEY/AGENT INFORMATION:
NAME: Arinifello, Pamela Deneke
REGISTRATION NUMBER: 40,489
REFERENCE/DOCKET NUMBER: GTC-012
TELECOMMUNICATION INFORMATION:
TELEPHONE: (781)893-8077
TELEPAX: (781)893-8077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME/KEY: misc_feature
LOCATION: (B) LOCATION 1...326
SEQUENCE DESCRIPTION: SEQ ID NO: 3665:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HYPOTHETICAL: YES
ORIGINAL SOURCE:
ORGANISM: Enterococcus faecium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO ENTEROCOCCUS FAECIUM FOR DIAGNOSTICS AND THERAPEUTICS NUMBER OF SEQUENCES: 7310

CORPESCONDENCE ***CONTENCE***** 7310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE: 17-Apr-2003
PRIOR APPLICATION NUMBER: US/09/107,532
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: CD/ROM ISO9660
                                                                                 MOLECULE TYPE: protein HYPOTHETICAL: YES
                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT
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ADDRESSEE: GENOME
                       FEATURE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OPERATING SYSTEM: <Unknown>
SOFTWARE: ASCII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET: 100 Beaver Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/10/417,884A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY: USA
NAME/KEY: misc_feature
                                                                                                                  TOPOLOGY: linear
                                                                                                                                                               LENGTH: 117 amino acids
                                           ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION DATA:
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                                                                                                                                           amino acid
                                        Enterococcus faecium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENOME THERAPEUTICS CORPORATION
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27.4%; Pred. No. 0.64;
1tive 16; Mismatches 38;
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RESULT 9 US-10-667-762-76

Sequence 76, Application US/10667762 GENERAL INFORMATION:

APPLICANT: Erding Hu

Yuan Zhu Ganesh M. Joyce Yue

. Sathe e Mao

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; LOCATION: (B) LOCATION 1...117; SEQUENCE DESCRIPTION: SEQ ID NO: 5593: US-10-417-884A-5593
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US-09-804-291A-449
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CURRENT FILING DATE: 2001-03-13
PRIOR APPLICATION NUMBER: 60/188,914
PRIOR FILING DATE: 2000-03-13
PRIOR PELICATION NUMBER: 60/192,033
PRIOR PELICATION NUMBER: 60/192,033
PRIOR PELICATION NUMBER: 60/198,474
PRIOR APPLICATION NUMBER: 60/198,474
PRIOR APPLICATION NUMBER: 60/199,335
PRIOR TILING DATE: 2000-04-14
PRIOR APPLICATION NUMBER: 60/199,335
PRIOR APPLICATION NUMBER: 60/207,702
PRIOR APPLICATION NUMBER: 60/207,702
PRIOR FILING DATE: 2000-04-26
PRIOR FILING DATE: 2000-05-26
PRIOR FILING DATE: 2000-05-26
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                                                                                                                                                                                                                                                                        ; ORGANISM: Homo sapiens US-09-804-291A-449
                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQ ID NOS: 531
SOFTWARE: PatentIn Ver. 3.2
SEQ ID NO 449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 449, App
GENERAL INFORMATI
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                                                                                                                                                                                  Matches
                                                                                                                                                                                                                      Query Match
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PRIOR APPLICATION NUMBER: 60/266,862
PRIOR FILING DATE: 2001-02-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION NUMBER: 60/213,849
PRIOR TILING DATE: 2000-06-23
PRIOR APPLICATION NUMBER: 60/226,534
PRIOR FILING DATE: 2000-08-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: HUMAN OLFACTORY RECEPTORS FILE REFERENCE: 100337.54287US
                                                                                                                                                                                                                                                                                                                      LENGTH: 313
TYPE: PRT
                                                                                                                                                                                                     Local
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163 ----LIFSLPFRSHPIIPHFLCDILPVLRLASAGKHRSEISVMTATIVFI
                                                                                           106 IVLGISECCLLTAMAYDRYVAICQPLRYSTLLSPRACLAMVGSSWLTGIITATTHAS---
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                                           65 DLKTLTFGLIAVAITVVAHLL-------GGRRTLLSVGAGTIVFV 102
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                                                                                                                                                                             ch 13.5%;
l Similarity 26.4%;
29; Conservative 18
                                                                                                                                    8 ILLVVAVCAVITFALRAVPFLILKPLRESQFVGK---MAMMMPAGILAILTASTFRSNAI 64
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   13.7%; Score 72; DB 6; Length 117; 25.7%; Pred. No. 0.22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24;
                                                                                                                                                                                  18;
                                                                                                                                                                             Score 71; DB 5
Pred. No. 0.91;
8; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                             DB 5;
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                                                                                                                                                                               41; Indels
                                                                                                                                                                                                                             Length 313;
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                                                                                                                                                                                  22;
    208
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US-60-556-841-11808
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US-60-556-841-9476
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US-60-556-841-11808
                                                                                                                                                                                                                                                                                                                                                                                               ; ORGANISM: Oryza sativa
US-60-556-841-9476
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CURRENT FILING DATE: 2004-03-25
NUMBER OF SEQ ID NOS: 12463
SEQ ID NO 11808
LENGTH: 568
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SEQ ID NO 9476
FUGTH: 618
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GENERAL INFORMATION:
APPLICANT: Abad, Mark S.
TITLE OF INVENTION: Genes and Uses for Plant Improvement
FILE REFERENCE: 38-21(53450)
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GENERAL INFORMATION:
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Best Local Similarity
                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                  Query Match
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TITLE OF INVENTION: Genes and Uses for Plant Improvement
FILE REFERENCE: 38-21[53450]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/60/556,841
CURRENT FILING DATE: 2004-03-25
NUMBER OF SEQ ID NOS: 12463
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ORGANISM: Zea mays
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                                                                                                           321 ACVLLYVAVCLVIT---GMVPYTLLGEDAPLAEA-FAAKGLKFVTVLISIGAVAGLTTTL 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        36; Conservative
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                                                                                                                                                                                                                                                 ch 13.9%; Score 73; DB 7; Length 618; l Similarity 29.1%; Pred. No. 1.2; 34; Conservative 17; Mismatches 44; Indels
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                                  TASTFRSNAIDLKTLTFGLIAVAITVVAHLLGGRRTLLS----VGAGTIVFVGLVNL 107
                                                                                                                                                                                SCILLVVAVCAVITFALRAVPFLIL---KPLRESQFVGK------MAMWMPAGILAIL 54
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31.3%; Pred. No. 1.1;
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US-60-556-841-11757; Sequence 11757, Application US/60556841; GENERAL INFORMATION:
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Sequence 365, Applicate.
Sequence 365, Applicate.
GENERAL INFORMATION:
APPLICANT: Lynn A Doucette-Stamm
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APPLICANT: Lynn A Doucette-Stamm
APPLICANT: Lyn
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LENGTH: 618
PRICE DATE: 17-Apr-2003

PRICE APPLICATION DATA:
APPLICATION UNMBER: US/09/107,532
FILING DATE: 30-Unn-1998
APPLICATION NUMBER: 60/085,598
FILING DATE: 14 May 1998
APPLICATION NUMBER: 60/051571
FILING DATE: 14 May 1998
APPLICATION NUMBER: 60/051571
FILING DATE: July 2, 1997
ATTORNEY/AGENT INFORMATION:
NAME: Ariniello, Pamela Deneke
REGISTRATION NUMBER: 40,489
REFERENCE/DOCKET NUMBER: 6TC-012
TELEPHONE: (781)893-507
TELEPHONE: (781)893-507
TELEPAX: (781)893-507
INFORMATION FOR SEQ ID NO: 3665:
SEQUENCE CHARACTERISTICS:
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TITLE OF INVENTION: Genes and Uses for Plant Improvement
FILE REFERENCE: 38-21 (53450)
CURRENT APPLICATION NUMBER: US/60/556,841
CURRENT FILING DATE: 2004-03-25
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APPLICATION NUMBER: US/10/417,884A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ZIP: 02354
COMPUTER READABLE FORM:
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ADDRESSEE: GENOME THERAPEUTICS CORPORATION
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: PC
OPERATING SYSTEM: <Unknown>
SOFTWARE: ASCII
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STATE: Massachusetts
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Pred. No.
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AND AMINO ACID SEQUENCES RELATING TO
FABCIUM FOR DIAGNOSTICS AND THERAPEUTICS
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Result
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Maximum DB
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Perfect score:
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score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.
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(cgn2_6/ptcdata/1/paa/PCT_NEW_COMB.pep:*
(cgn2_6/ptcdata/1)/paa/US06_NEW_COMB.pep:*
(cgn2_6/ptcdata/1)/paa/US07_NEW_COMB.pep:*
(cgn2_6/ptcdata/1)/paa/US08_NEW_COMB.pep:*
(cgn2_6/ptcdata/1)/paa/US08_NEW_COMB.pep:*
(cgn2_6/ptcdata/1)/paa/US08_NEW_COMB.pep:*
(cgn2_6/ptcdata/1)/paa/US08_NEW_COMB.pep:*
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Listing first 45 summaries
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US-10-724-972A-6988
US-60-556-841-11808
US-60-556-841-1175
US-60-556-841-177-184A-3665
US-10-417-884A-3655
US-10-417-884A-3655
US-10-417-884A-3655
US-10-667-762-76
US-10-787-018-9
US-10-787-701-40503
US-60-556-841-1117
US-10-787-701-43433
US-60-556-841-678
US-10-7856-841-678
US-10-7856-841-1087
US-60-556-841-10087
US-60-556-841-10089
US-10-767-701-46482
US-10-764-972A-4715
US-10-764-972A-4781
US-10-756-841-4550
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Search time 7.52089 Seconds (without alignments) 386.360 Million cell updates/sec
Sequence 698, Ap
Sequence 11808, A
Sequence 11808, A
Sequence 11857, A
Sequence 3655, Ap
Sequence 5593, Ap
Sequence 76, Appl
Sequence 76, Appl
Sequence 11117, A
Sequence 40503, Ap
Sequence 2298, Ap
Sequence 43512, A
Sequence 43433, A
Sequence 6678, Ap
Sequence 6678, Ap
Sequence 11087, A
Sequence 11087, A
Sequence 11087, A
Sequence 4715, Ap
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Sequence 4781, Ap
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Sequence 4781, Ap
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Sequence 6421, Ap
Sequence 6421, Ap
Sequence 6421, Ap
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US-10-724-972A-6988
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       APPLICANT: Abad, Mark S.
TITLE OF INVENTION: Genes and Uses for Plant Improvement PILE REFERENCE: 38-21 (53450)
CURRENT APPLICATION NUMBER: US/60/556,841
CURRENT FILING DATE: 2004-03-25
NUMBER OF SEQ ID NOS: 12463
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65 12.4 465 6 US-10-471-894A-5620 65 12.4 465 7 US-60-556-841-4458 65 12.4 507 7 US-60-556-841-3445 65 12.4 508 7 US-60-556-841-3141 64.5 12.3 181 7 US-60-556-841-910 64.5 12.3 181 7 US-60-556-841-900 64.5 12.3 181 7 US-60-556-841-900 64.5 12.3 181 7 US-60-556-841-900 64.5 12.3 181 7 US-60-556-841-900 64.5 12.3 182 6 US-10-724-972A-4088 64.5 12.3 423 6 US-10-724-972A-4088 64.5 12.3 423 6 US-10-724-972A-4088 64.5 12.3 185 6 US-10-724-972A-6854 65.5 12.1 348 6 US-10-724-972A-5519 63.5 12.1 348 6 US-10-724-972A-6950 63.5 12.1 348 6 US-10-724-972A-6950 63.5 12.1 502 6 US-10-724-972A-7473 63.5 12.1 518 6 US-10-724-972A-6261 63.5 12.1 518 6 US-10-724-972A-6261 63.5 12.1 518 6 US-10-724-972A-6261	4 5	44	43	42	41	40	39	38	37	36	ω G	34	ω G	32	ω μ	30	29	28	7
.4 465 6 US-10-417-884A .4 465 7 US-60-556-841-1 .4 508 7 US-60-556-841-1 .4 508 7 US-60-556-841-1 .4 509 7 US-60-556-841-1 .4 509 7 US-60-556-841-1 .3 181 7 US-60-556-841-1 .3 181 7 US-60-556-841-1 .3 423 6 US-10-724-972A .3 605 6 US-10-724-972A .3 158 6 US-10-724-972A .3 158 6 US-10-724-972A .3 158 6 US-10-724-972A .1 297 6 US-10-724-972A .1 318 6 US-10-417-884A .1 502 6 US-10-724-972A .1 503 6 US-10-724-972A .1 503 6 US-10-724-972A .1 503 6 US-10-724-972A .1 503 6 US-10-724-972A .1 503 6 US-10-724-972A .1 503 6 US-10-724-972A .1 503 6 US-10-724-972A .1 503 6 US-10-724-972A .1 503 6 US-10-724-972A	63.5	63.5	63.5	63.5	63.5	63.5	63.5	0 4	6 4	64.5	64.5	64.5	64.5	65	65	65	65	6.0	ő
6 US-10-10-10-10-10-10-10-10-10-10-10-10-10-	12.1	12.1	12.1	•		12.1	12.1	12.2	12.2	12.3	12.3	12.3	12.3	12.4	12.4	12.4	12.4	12.4	14.4
US-10-417-884A US-60-556-841-1 US-60-556-841-1 US-60-556-841-1 US-60-556-841-1 US-60-556-841-1 US-60-556-841-1 US-60-556-841-1 US-10-724-972A US-10-724-972A US-10-724-972A US-10-724-972A US-10-724-972A US-10-724-972A US-10-724-972A US-10-724-972A US-10-724-972A US-10-724-972A US-10-724-972A US-10-724-972A US-10-724-972A US-10-724-972A	572	518	507	502	348	311	297	425	158	605	423	181	181	509	508	507	469	465	477
-10-417-884A -60-556-841-1 -60-556-841-1 -60-556-841-1 -60-556-841-1 -60-556-841-1 -70-724-972A -70-724-972A -70-724-972A -70-724-972A -70-724-972A -70-724-972A -70-724-972A -70-724-972A -70-724-972A -70-724-972A -70-724-972A -70-724-972A -70-724-972A -70-724-972A -70-724-972A	7	σ	Н	Q	a	σ	σ	7	σ	Q	σ	7	7	7	7	7	7	Q	a
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	7889, 7	6261, 7	2, Appl:	7473, Ap	•	Ü	5519, Ap	6530, A	•	4854, Ap	4088, 1		940, App	3141, Ap		4463, Ap	4458, A	5620, A	

ALIGNMENTS

Application US/10724972A

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TYPE: PRT;
ORGANISM: S.epidermidis
US-10-724-972A-6988
US-60-556-841-8672; Sequence 8672, Application US/60556841; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQ ID NOS: 7544
SEQ ID NO 6988
LENGTH: 156
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GENERAL INFORMATION:
APPLICANT: Doucette-Stamm, Lynn
APPLICANT: Bush, David
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO STAPHYLOCOCCUS TITLE OF INVENTION: EPIDERMIDIS FOR DIAGNOSTICS AND THERAPEUTICS FILE REPERENCE: PATHO3-16
CURRENT APPLICATION NUMBER: US/10/724,972A
CURRENT FILING DATE: 2003-12-01
PRIOR APPLICATION NUMBER: 09/450,969
PRIOR APPLICATION NUMBER: 09/450,969
PRIOR FILING DATE: 1999-11-29
PRIOR APPLICATION NUMBER: 09/134,001
PRIOR APPLICATION NUMBER: 09/064,964
PRIOR APPLICATION NUMBER: 60/064,964
PRIOR APPLICATION NUMBER: 60/055,779
PRIOR FILING DATE: 1997-08-14
PRIOR FILING DATE: 1997-08-14
                                                                                                                                                                                                                                                                                                                                                Matches
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Best Local Similarity
                                                                                                                                               103 DGVIQQHDHAFGYTLNLPYIIAIVPTVMLAIFTRSLTVTILGG----IFV 148
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                                                                                                                                                                                              61 SNAIDLKTLTFG-----LIAVAITVVAHLLGGRRTLLSVGAGTIVFV 102
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US-09-328-352-6931
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US-09-489-039A-7704
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APPLICANT: Gary L. Breton et al.

APPLICANT: Gary L. Breton et al.

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO ACINETOBACTER

TITLE OF INVENTION: BAUMANNII FOR DIAGNOSTICS AND THERAPEUTICS

FILE REFERENCE: GTC99-03PA

CURRENT APPLICATION NUMBER: US/09/328,352

CURRENT FILING DATE: 1999-06-04

NUMBER OF SEQ ID NOS: 8232

SEQ ID NO 6931

LENGTH: 169
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Matches
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PRIOR FILING DATE: 1999-04-09
NUMBER OF SEQ ID NOS: 8344
SEQ ID NO 5990
Sequence 7704, Application US/09489039A
Patent No. 6610836
GENERAL INFORMATION:
APPLICANT: Gary Breton et. al
APPLICANT: Gary Breton et. al
APPLICANT: OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING
TITLE OF INVENTION: PUBLICACID AND AMINO ACID SEQUENCES RELATING
TITLE OF INVENTION: PUBLICACID AND THERAPEUTICS
FILE REFERENCE: 2709.2004001
CURRENT FILING ADTE: 2000-01-27
PRIOR APPLICATION NUMBER: US 60/117,747
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Best Local
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Patent No. 6562958
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TYPE: PRT
ORGANISM: Proteus mirabilis
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33; Conserv
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25.4%; Pred. No. 1.2;
tive 25; Mismatches
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Pred. No. 0.35;
25; Mismatches
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Search completed: April 16, Job time : 11.2284 secs

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; TYPE: PRT
; ORGANISM: Klebsiella
US-09-489-039A-7704
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; NUMBER OF SEQ ID NO:
; SEQ ID NO 7704
; LENGTH: 188
                                                                                                                                                                                                                                                                                             ; ORGANISM: Acinetobacter baumannii
US-09-328-352-6237
                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION NUMBER: US/09/328,352
CURRENT FILING DATE: 1999-06-04
NUMBER OF SEQ ID NOS: 8252
SEQ ID NO 6237
LENGTH: 259
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
APPLICANT: Gary L. Breton et al.
APPLICANT: GARY L. Breton et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING
TITLE OF INVENTION: BAUMANNII FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: GTC99-03PA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 6237, App
Patent No. 6562958
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F 184
                                                                                                        KMLVLAGIGSLAIGFYDGIFGPGTGSFFIFFFIRFLQVDFLHASALSKIGNFMTNLAALS
                                                                                                                                       KMAMWMPAGILAI------DLKTLT
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S: 14342
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19.8%; Pred. No.
                                                                            -GLIAVAITVVAHLLGGRRTLLSVGAG--TIVFVGLVNL
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06:56:35
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                                                                             107
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APPLICANT: GATY BRECOME.

TITLE OF INVENTION: NUCLEIC ACID AND AMINO AN TITLE OF INVENTION: PREUMONIAE FOR DIAGNOSTIC PILE REFERENCE: 2709.2004001

FILE REFERENCE: 2709.2004001

CURRENT APPLICATION NUMBER: US/09/489,039A

CURRENT FILING DATE: 2000-01-27

PRIOR APPLICATION NUMBER: US 60/117,747

PRIOR FILING DATE: 1999-01-29

NUMBER OF SEQ ID NOS: 14342

SEQ ID NO 13014

LENGTH: 1049
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Best Local S
Matches 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 5593, Applicate Patent No. 6583275
GENERAL INFORMATION:
                 INFORMATION FOR SEQ ID NO: 559
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                  CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/107,532A
FILING DATE: 30.7un-1998
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/085,598
FILING DATE: 14 May 1998
APPLICATION NUMBER: 60/051571
FILING DATE: July 2,1997
                                                                            ATTORNEY/AGENT INFORMATION:
NAME: ATINIELLO, Pamela Deneke
REGISTRATION NUMBER: 40,489
REFERENCE/DOCKET NUMBER: GTC-012
TELECOMMUNICATION INFORMATION:
TELEPHONE: (781)893-5007
                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Lynn A Doucette-Stamm TITLE OF INVENTION: NUCLEIC ACID ENTEROCOCCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 7310
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                924 DVYFQVGLLTTIGLSAKNAILIVEFAKDLMEKEGKGLIEATLEAVRMRLRPILMTSLAFI
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Similarity 19.4%; Pred. No. 2.2;
26; Conservative 23; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: PC
OPERATING SYSTEM: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CITY: Waltham
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE:
                                                            TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDIUM TYPE: CD/ROM ISO9660
ENGTH: 117 amino acids
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ON: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
ON: PNEUMONIAE FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100 Beaver Street
                                                            (781)893-8277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENOME THERAPEUTICS
                                          5593:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    and David Bush
AND AMINO ACID SEQUENCES RELATING TO
FAECIUM FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORPORATION
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      32;
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PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
SEQ ID NO 27266
LENGTH: 5333
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                                                                                                                GENERAL INFORMATION:
                                                                                                                                  Sequence 5990, Application US/09543681A Patent No. 6605709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 27266, Application US/09252991A
Patent No. 6551795
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APPLICANT: GARY BRETON
TITLE OF INVENTION: NUCLEIC ACID AND AMINO
TITLE OF INVENTION: DIAGNOSTICS AND THERA:
FILE REFERENCE: 2709.1002-001
CURRENT APPLICATION NUMBER: US/09/543,681A
CURRENT FILING DATE: 2000-04-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION NUMBER: US/09/252,991A CURRENT FILING DATE: 1999-02-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Marc J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION NUMBER: PRIOR FILING DATE: 1998-0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Pseudomonas aeruginosa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
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LOCATION: (B) LOCATION 1...117
SEQUENCE DESCRIPTION: SEQ ID NO: 5593:
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HYPOTHETICAL: YES
ORIGINAL SOURCE:
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                                                                                                                                                                                                                                                                                                                          90 MPAGLSSLVLQSQ----
                                                                                                                                                                                                                                                                                                                                                                  46 MPAGILAILTASTFRSNAIDLKTLTFGLIAVAITVVAHLLGGR---RTL--LSVGAGTIV 100
                                                                                                                                                                                                                                                                                                                                                                                                     35 DFPPLLF----CA-LRFALAALPLLVLRGPMPAPFGRILLIGVVLLGVVKFGLLFVGMAQG 89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         64 IDLKTLTF-GLIAVAITVVAHLLGGRRTLLSVGAGTIVFVGLVNL 107
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27; Conserv
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Pred. No. 0.16;
                                                         AND AMINO ACID SEQUENCES RELATING AND THERAPEUTICS
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片
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                                                                                                                                                                                                                                                    ; TYPE: PRT ; ORGANISM: Klebsiella pneumoniae US-09-489-039A-7412
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CURRENT FILING DATE: 2000-01-27
PRIOR APPLICATION NUMBER: US 60/117,747
PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 14342
SEQ ID NO 7412
LENGTH: 590
                                                                                                                                                                      Matches
                                                                                                                                                                                        Query Match
Best Local (
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APPLICANT: Buck, Elizabeth
TITLE OF INVENTION: PEPTIDES AND OTHER SMALL MOLECULES DERIVED FROM REGIONS
TITLE OF INVENTION: OF INTERACTING PROTEINS AND USES THEREOF
FILE REFERENCE: 6923-074
CURRENT APPLICATION UNMEER: US/09/245,039
CURRENT FLING DATE: 1999-02-05
NUMBER OF SEQ ID NOS: 10
SOFTWARE: Patentin Ver. 2.0
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APPLICANT: Chen, Yibang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Iyengar, Srinivas R.V
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ORGANISM: Bos taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                            PPLICANT: Gary Breton et. al
ITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID
ITLE OF INVENTION: PNEUMONIAL FOR DIAGNOSTICS A
ILE REFERENCE: 2709.2004001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ) ID NO 2
ENGTH: 1134
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                                        64
                                                                                     16 VVVCITALVIY----VPLLFIVVQSFLSAPFFSRSKSWSLEAFAFIFTDPDFYLALRSGF 71
                                                                                                                           10 LVVAVCAVITFALRAVP--FLILKPLRESQFVGKMAMWMFAGILAILTASTF----RSNA 63
                                                                                                                                                                   1 Similarity
32; Conserv
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                                        IDLKTLTFGLIAVAIT----VVAHL-----LGGRRTL------LSVGAGTIVFVG 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                      Conservative
-LAFGLVIIAIPLGGILAFLMVRTDLPGRRIISPLILVPIFVSPMVLGFGYVVAAG
                                                                                                                                                                                        13.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14.3%; Score 75; DB 4; Length 1134; 28.6%; Pred. No. 1.2; tive 20; Mismatches 45; Indels
                                                                                                                                                                 b; Score 73; DB 4; Length 590;
b; Pred. No. 0.94;
19; Mismatches 40; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QUENCES RELATING TO KLEBSIELLA THERAPEUTICS
                                                                                                                                                                        34;
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US-09-489-039A-13014

Sequence 13014, Application US/09489039A Patent No. 6610836 GENERAL INFORMATION:

RESULT 9

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NAME/KEY: misc_feature;
LOCATION: (B) LOCATION 1...
SEQUENCE DESCRIPTION: SEQ ID NO
US-09-107-532A-3665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-107-532A-3665
, Sequence 3665, Application US/09107532A
, Patent No. 658325;
, GENERAL INFORMATION:
, APPLICANT: Lynn A Doucette-Stamm
, TITLE OF INVENTION: NUCLEIC ACID
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                                                                                                                                                    Matches
                                                                                                                                                                  Query Match
Best Local
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INFORMATION FOR SEQ ID NO: 3665:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/107,532A
APPLICATION NUMBER: 30-Jun-1998
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/085,598
APPLICATION NUMBER: 60/085,598
APPLICATION NUMBER: 60/051571
FILING DATE: July 2, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:

RAME: Ariniello, Pamela Deneke
REGISTRATION NUMBER: 40,489
REFERENCE/DOCKET NUMBER: GTC-012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ZIP: 02354
COMPUTER READABLE FORM:
MEDIUM TYPE: CD/ROM ISO9660
                                                                                                                                                                                                                                                                                                                                      TOPOLOGY: linear MOLECULE TYPE: protein HYPOTHETICAL: YES ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELECOMMUNICATION INFORMATION TELEPHONE: (781)893-5007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                    FEATURE:
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  110
                                  63 AIDLKTLTFGLIAVAITVVAHLLGGRRTLLSVGAGTIVFVGLVNLF 108
                                                                          50
                                                                                                                                                  29;
                                                                                                          8 ILLVV----AVCAVITFALRAVPFLILKPLRESQFVG-KMAMMMPAGILAILTASTFRSN 62
                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CITY: Waltham
STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OPERATING SYSTEM: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE:
                                                                        ILLVTRLPRTICLILVGATSSICGLIMQHLTQNKFVSPTTAGTMDSARLGILVAMIFLPG 109
                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 326 amino acids
                                                                                                                                                                                                                                                                                                                      ORGANISM: Enterococcus faecium
                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          02354
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    -SLIVRSLTAFCFAF-
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                                                                                                                                                                                                                                              SEQ ID NO:
                                                                                                                                                    16;
                                                                                                                                                                    Score 72.5; DB Pred. No. 0.52;
                                                                                                                                                    Mismatches
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AND AMINO ACID SEQUENCES RELATING TO
FABCIUM FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORPORATION
                                                                                                                                                                                      DB 4;
    AGTLLFLSLTRLF 137
                                                                                                                                                    38;
                                                                                                                                                                                      Length 326;
                                                                                                                                                      Indels
                                                                                                                                                    23;
                                                                                                                                                    Gaps
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2000-04-05

60/128,706

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CURRENT APPLICATION NUMBER: US/09/134,001C;
CURRENT FILING DATE: 1998-08-13;
PRIOR APPLICATION NUMBER: US 60/064,964;
PRIOR FILING DATE: 1997-11-08;
PRIOR APPLICATION NUMBER: US 60/055,779;
PRIOR FILING DATE: 1997-08-14;
NUMBER OF SEQ ID NOS: 5674;
SEQ ID NO 5172;
LENGTH: 156
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US-09-134-001C-5172
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US-09-540-236-2360
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Best Local &
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LENGTH: 405
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APPLICANT: Lynn Doucette-Stamm et al

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO STAPHYLOCOCCUS

TITLE OF INVENTION: EPIDERMIDIS FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 5172, Application US/09134001C Patent No. 6380370
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                                                                                                                                                                               Patent No. 6673910 GENERAL INFORMATION:
                                                                                                                                                                                                                Sequence 2360,
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PRIOR APPLICATION NUMBER: US 6
PRIOR FILING DATE: 1999-04-09
NUMBER OF SEQ ID NOS: 8344
NUMBER OF SEQ ID NOS: 3840
'EQ ID NO 2360
LENGTH: 506
                                                           CURRENT APPLICATION NUMBER: US/09/540,236
CURRENT FILING DATE: 2000-04-04
                                                                                                   APPLICANT: GATY L. Breton et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO MORAXELLA CATAR
TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 2709.22065-001
                                                                                                FILE REFERENCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Proteus mirabilis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
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Similarity 31.7%; Pred. No. 0.0012;
33; Conservative 18; Mismatches 3
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                                                                                                                                                                                                                                                                                                                                                      SNAIDLKTLTFG-----LIAVAITVVAHLLGGRRTLLSVGAGTIVFV 102
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                      Application US/09540236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15.7%; Score 82.5; DB 4; 25.7%; Pred. No. 0.012;
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                                                                                                                           Query Match
Best Local
                                                                                                             Matches
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TYPE: PRT

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TLTFGLIAVA--ITVVAHLLGGRRTLL--SVGAGTIVFVGLVNLF 108

LALLESLTFALLCCFFALGGFAGAHAGAAAVPATADQGVWQLLLV-TFVSYALLFVRSLL 185 VAVCAVITEALRAVPELILKPLRESOFVGKMAMMMPAGILAILTASTERSNAI----DLK 67

45

Indels

10;

Gaps

30;

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; ORGANISM: M.catarrhalis
US-09-540-236-2360
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                                                                   US-08-726-214-2
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Patent No. 6107076
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                                                                                                                                    TELEFAX: (512) 474-7577
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 1134 amino acid
                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Tang, Weiter G.
APPLICANT: Gilman, Alfred G.
TITLE OF INVENTION: SOLUBLE MAMMALIAN
TITLE OF INVENTION: AND USES THEREFOR
                                                                                                                                                                                                                                                     PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/005,498
FILING DATE: 04-OCT-1995
ATTORNEY/AGENT INFORWATION:
NAME: Highlander, Steven L.
REGISTRATION NUMBER: 37,642
                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER: UT TELECOMMUNICATION INFORMATION: TELEPHONE: (512) 418-3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES: 3
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                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDIUM TYPE: Ploppy disk
COMPUTER: IBM PC compatible
ODERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                     STRANDEDNESS
                                                                                     ropology:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Houston
14.3%; Score 75; DB 3; Similarity 28.6%; Pred. No. 1.2; 30; Conservative 20; Mismatches 4
                                                                                                                    amino acid
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                                                                                                                                        1134 amino acids
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23.1%; Pred. No.
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                                    Length 1134;
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Minimum DB
Maximum DB
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Perfect score:
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No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Total number of hits satisfying
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length: 2000000000
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Gapop 10.0 , Gapext 0.5
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| Compared_Patents_AA:*
| Compared_Potodata/2/iaa/5A_COMB.pep:*
| Compared_Potodata/2/iaa/5B_COMB.pep:*
| Compared_Potodata/2/iaa/6A_COMB.pep:*
| Compared_Potodata/2/iaa/6B_COMB.pep:*
| Compared_Potodata/2/iaa/POTUS_COMB.pep:*
| Compared_Potodata/2/iaa/backfIles1.pep:*
     GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd
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Sequence 5593, Ap
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ALIGNMENTS

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APPLICANT: SAHM, HERWAND
APPLICANT: SAHM, HERWAND
APPLICANT: SAHM, HERWAND
APPLICANT: BEGELING, LOTHAR
APPLICANT: PERFERLE, WALTER
TITLE OF INVENTION: NUCLEOTIDE SEQUENCE CODING FOR THE EXPORT OF
TITLE OF INVENTION: SEANCHED CHAIN AMINO ACIDS, PROCESS FOR THE
TITLE OF INVENTION: ISOLATION THEREOF AND USE THEREOF
FILE REFERENCE: 21123/265496/MAS
CURRENT APPLICATION NUMBER: US/09/471,803A
CURRENT APPLICATION NUMBER: DE 199 51 708.8
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR FILING DATE: 1999-10-27
NUMBER OF SEO ID NOS: 12
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 5
LENGTH: 108
TYPE: PRT
ORGANISM: Corynebacterium glutamicum
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US-09-543-681A-6109
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OTHER INFORMATION: ATCC14752
US-09-471-803A-5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 5, Application Patent No. 6613545 GENERAL INFORMATION:
Sequence 6109, Application US/09543681A
PATERIX NO. 6605709
GENERAL INFORMATION:
APPLICANT: GARY BRETON
TITLE OF INVENTION: DUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PROTEUS MIRABII
TITLE OF INVENTION: DUGNOSTICS AND THERAPEUTICS
FILE REPERENCE: 2709.1002-001
CURRENT APPLICATION NUMBER: US/09/543,681A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 108; Conserv
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Pred. No. 2.8e-58;
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                                                                                                                                                                                                                                                                                                                                               The present invention provides a number of nucleotide and protein sequences from the Coryneform bacterium Corynebacterium glutamicum. These are useful for identifying the mutation point of a gene derived from a mutant of coryneform bacterium, measuring expression amount and analysing the expression profile or expression pattern of a gene derived from Coryneform bacterium. And identifying a homologue of a gene derived from coryneform bacterium. Coryneform bacteria are useful for producing amino acids, nucleic acids, vitamins, saccharides and organic acids, particularly L-lysine. The present sequence is a protein described in the exemplification of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from the European Patent Office
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16-DEC-1999; 99JP-00377484.
07-APR-2000; 2000JP-00159162.
03-AUG-2000; 2000JP-00280988.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Novel polynucleotides derived from Coryneform bacteria, for identifying mutation point of a gene, measuring expression of a gene, analyzing expression profile or pattern of a gene and identifying homologous gene.
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N-PSDB; AAH67841.
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Tateishi N,
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                                                                                                                                                                                                                                                                                                                Sequence 440 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 17; SEQ ID NO 6376; 246pp + Sequence Listing; English.
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317 DDRVGPKPİTLISL 330
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                                       93
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                                                                            FLIAAAVFRDGLAGVFTFGAILAVSVYGLSAGDV--LLFGVAANVVSALGALLGG---FL 316
                                       S--VGAGTIVFVGL 104
                                                                                                                    ------AGIL---AILTASTFRSNAIDLKTLTFGLIAVAITVVAHLLGGRRTLL 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mizoguchi H, Ando S, Hayashi M, Ochiai K,
Senoh A, Ikeda M, Ozaki A;
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Search completed: April 16, 2004, 06:53:15 Job time: 34.3844 secs

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Matches 30
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01-JUL-1999;
08-JUL-1999;
08-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Corynebacterium glutamicum; stress; resistance; tolerance; SRT; fine chemical production; organic acid; proteinogenic amino acid; nonproteinogenic amino acid; purine base; pyrimidine base; nucleoside; nucleotide; lipid; saturated fatty acid; unsaturated fatty acid; carbohydrate; aromatic compound; vitamin; cofactor; polyketide; enzyme; evolutionary study; environmental hazard; fermentation.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAB79004 standard; protein; 440
                                                                                                                                                                                                                                        09-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             25-JUN-1999;
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                                                                                                                                                                                                          14-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         229 LÍTFLÍSLFAFTÍLEKHSKNEMINLNIFKTRÉFTASALVALLÁQFFYTGVIVTÍ--PTFF 286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 SNAIDLKTLTFGLIAVAITVVAHLLGGRRTLL--SVGAGTIVFVGL 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   17 VITEALRAVPELILK------PLRE---SQFVGKMAMMMPAGILAILTASTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30;
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                                                                                                                                                                                                                                  99DE-01030429.
99US-0142692P.
99DE-01031413.
99DE-01031457.
99DE-01031541.
99DE-01032209.
99DE-01032230.
                                                                                                                                            99DE-01040764.
99US-0151214P.
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                                                                                                                                                                                                          99DE-01032914.
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28.3%; Pred. No.
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Sequence 440 AA;

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cc expression in host cells and production of fine chemicals, such as, an corganic acid, a proteinogenic or nonproteinogenic amino acid (preferred), ca a purine or pyrimidine base, a nucleoside, a mucleotide, a lipid, a compound, a vitamin, a cofactor, a polyketide, or an enzyme. The fine compound, a vitamin, a cofactor, a polyketide, or an enzyme. The fine compound, a vitamin, a cofactor, a polyketide, or an enzyme. The fine compound, a vitamin, a cofactor, a polyketide, or an enzyme. The fine compound, a vitamin, a cofactor, a polyketide, or an enzyme. The fine compound, a vitamin, a cofactor, a polyketide, or an enzyme. The fine compound, a vitamin, a cofactor, a polyketide, or an enzyme. The fine compound, a vitamin, a polyketide, or an enzyme. The fine compound is compound to the SRT protein define presence or compound, to identify and localise (I), (II), (III) and host cells compound to its compound to satisfy, and in modulating the sRT protein activity, and in modulating the sRT protein activity, and in modulating the sRT protein activity, and in modulating the sRT protein activity, and in modulating the sRT protein molecules encoded by it increase the survival of C. glutamicum to chemical and environmentally or chemically compound to chemical and environmental hazards and compound and or conditions. By increasing the growth rate or maintaining a normal growth rate in poor or toxic conditions, the yield, condition and/or efficiency or production of fine chemicals from a ccc
AAF70984 to AAF71133 encode the Corynebacterium glutamicum stress, resistance, and tolerance (SRT) proteins given in AAB78871 to AAB7 The C. glutamicum SRT genes (I) can be used in vectors (II) for expression in host cells and production of fine chemicals, such as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New isolated Corynebacterium glutamicum nucleic acid encoding a tolerance or resistance protein, for production or modulation of production of fine chemicals, such as, e.g. amino acids, lipids,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lee H, Kim H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 20; Page 481-482; 526pp; English
                                                culture
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       carbohydrates,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2001-061972/07.
DB; AAF71117.
                                                may
                                                be increased
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Matches 35
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                                                                                             202 LVAVLAAVWFLVSAIPALLRVPEIEAQVAAEDHPKGLIAAYKDLFGQIAELWKQDRNSVY
                                              262 FLIAATVFRDGLAGVFTFGAILAVSVYGLSAGDV--LLFGVAANVVSALGALLGG---FL
                                                                     48 -----AGIL---AILTASTFRSNAIDLKTLTFGLIAVAITVVAHLLGGRRTLL
                                                                                                                     11 VVAVCAVITFALRAVPFLILKPLRESQ------FVGKMA-MWMP-----
                                                                                                                                              35;
                                                                                                                                                          Similarity
DDRVGPKPIILISL 330
                       S--VGAGTIVEVGL 104
                                                                                                                                              Conservative
                                                                                                                                                        14.5%;
                                                                                                                                               19
                                                                                                                                                        Score 76.5;
Pred. No. 1.
                                                                                                                                               Mismatches
                                                                                                                                                                       DB
                                                                                                                                                                       4.
                                                                                                                                               35;
                                                                                                                                                                       Length 440;
                                                                                                                                                 Indels
                                                                                                                                                 45;
                                                                                                                                                 Gaps
                                                                         92
                                                                                                  261
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RESULT 15
AAG92622
ID AAG92
C glutamicum protein
                                                                                                                AAG92622 standard; protein; 440
                 Corynebacterium
                                  Coryneform bacterium; amino acid synthesis; vitamin; saccharide; organic acid synthesis.
                                                                              26-SEP-2001
                                                                                                  AAG92622;
                                                                              (first entry
                                                             fragment
                                                              SEQ ID NO: 6376.
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(BADI)

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Similarity

DB 4;

Length 314;

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RESULT 12
ABM67632
ABM67632
AC ABM67
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Best Local S
Matches 20
                                                       response or sensitivity to toxins and antibiotics produced by P. luminescens. Cells transformed to express the genes are useful for recombinant production of the proteins, particularly toxins and antibacterials useful as insecticides, bactericides and fungicides. The genes, proteins, vectors containing the genes and Ab are also useful therapputically (to treat microbial infection by bacteria or fungi that are sensitive to P. luminescens-encoded toxins or antibiotics) and as siopesticides. Other uses of the genes and the proteins are as virulence factors and for identifying targets of human diseases for which P. luminescens is a model (particularly plague and whooping cough). This
                                                                                                                                                                                                                                                                                                                                                                                     proteins from Photorhabdus luminescens. The isolated sequences are sources of probes and primers for detecting the genome of P. luminescens and related species; to study polymorphisms; for gene analysis and for detection/amplification of the genes. Antibodies (Ab) raised against the polypeptides encoded by the genes are used for detection/identification of P. luminescens, e.g. in foods. The genes, proteins, Ab and cells that carry a gene-containing vector are used to select compounds that modulate, regulate, induce or inhibit expression of the genes in plants, animals or microorganisms other than P. luminescens and are able to alter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         07-FEB-2001; 2001FR-00001659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            07-FEB-2002; 2002WO-IB003040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Antibacterial; fungicide; insecticide; polymorphism; genetic analysis; detection; food; gene expression; plant; animal; microorganism; toxin; antibiotic; biopesticide; virulence factor; disease model; plague;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ABM67632;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Genomic sequence of Photorhabdus luminescens and encoded polypeptides, useful e.g. as therapeutic antimicrobials and agricultural pesticides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              28-NOV-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Photorhabdus luminescens protein sequence #729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20-NOV-2003
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention relates to the isolation of genes and their encoded proteins from Photorhabdus luminescens. The isolated sequences ar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 2; SEQ ID NO 729;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200294867-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Photorhabdus luminescens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          whooping cough
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Buchrieser C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Duchaud E,
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(CNRS ) CNRS CENT NAT RECH SCI
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; Pred. No. 0.35
17; Mismatches
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06-SEP-2001; 2001US-00948993

25-OCT-2001; 2001US-0342923P

08-PEB-2002; 2002US-00072851

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                                                                                                                                                                                                                                                                                                                                                                                                                          New antisense nucleic acids, useful for identifying proteins or screening for homologous nucleic acids required for cellular proliferation to isolate candidate molecules for rational drug discovery programs.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21-MAR-2002; 2002WO-US009107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Antisense; prokaryotic essential gene; cell proliferation; drug design.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Protein encoded by Prokaryotic essential gene #30065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2003-029926/02.
N-PSDB; ACA48408.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            255 MAAIAFIGLMGEISLAAQTLYFQLSLFVMLFGIATSIGNEIMVGHLVGAKRFEDAYIRGI 314
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Trawick JD,
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Forsyth
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Xu HH;
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The invention relates to an isolated nucleic acid comprising any one of the 6213 antisense sequences given in the specification where expression of the nucleic acid inhibits proliferation of a cell. Also included are: (1) a vector comprising a promoter operably linked to the nucleic acid encoding a polypeptide whose expression is inhibited by the antisense nucleic acid; (2) a host cell containing the vector; (3) an isolated polypeptide or its fragment whose expression is inhibited by the antisense nucleic acid; (4) an antibody capable of specifically binding the polypeptide; (5) producing the polypeptide; (6) inhibiting cellular proliferation or the activity of a gene in an operon required for proliferation; (7) identifying a compound that influences the activity of the gene product or that has an activity against a biological pathway required for proliferation, or that inhibits cellular proliferation; (8) identifying a gene required for cellular proliferation; (8)

Claim 25; SEQ ID NO 72462; 1766pp; English.

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Claim 1; SEQ ID NO 5172; 267pp; English
                     Novel isolated nucleic acid encoding a Staphylococcus epidermis polypeptide, useful for diagnosing and treating bacterial infec
                                           WPI; 2002-381255/41.
N-PSDB; ABN92872.
                                                                                                    14-AUG-1997;
                                                                                                                                 30-APR-2002.
                                                                                                                                              US6380370-B1
                                                                                                                                                             Staphylococcus
                                                                 Doucette-Stamm
                                                                                              08-NOV-1997;
                                                                                                                   13-AUG-1998;
                                                                               (GENO-) GENOME
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                                                                                             97US-0055779P.
97US-0064964P.
                                                                                                                                                             epidermidis.
                                                                                THERAPEUTICS CORP
                                                                                                                   98US-00134001
                                                                 Bush
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The present invention relates to the genome sequence of Listeria componery togenes EGD-e (see ABA03041). The genome sequence and fragments of it are useful for selecting probes and primers for detecting genes in L. componytogenes and related organisms, and for studying genetic polymorphisms and other genomes. The present sequence is a protein cancel by the genome sequence of the present invention. Proteins expressed from the genome sequence are useful for raising specific antibodies, identification of L. monocytogenes and related organisms, and for biosynthesis and biodegradation, especially biosynthesis of vitamin B12. The genome sequence and proteins encoded by it are also useful for selecting compounds that regulate gene expression and cell replication and modulate L. monocytogenes—related diseases. In addition, the genome sequence and proteins encoded by it are useful in pharmaceutical and vaccines compositions for the treatment or prevention of infections by L. concortogenes and related organisms. Note: The sequence data for this patent did not form part of the printed specification, but was obtained of the print of the print of parts of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of the print of t
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SCILLVVAVCAVITFALRAVPFLILKPLRESQFVGKMAMMPAGILAILTASTFRSNAID
                                                                                                                                                                                                                                                                                                                                           LKTLTFG-----LIAVAITVVAHLLGGRRTLLSVGAGTIVFVGLVNLF 108
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protein; 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15.8%;
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Pred. No. 0.03:
23; Mismatches
     AA
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Matches 29
24-JUL-2002
                 ABP40327;
                                  ABP40327 standard;
(first entry)
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Staphylococcus epidermidis; open reading frame; \mathtt{ORF}_i bacterial infection; antibacterial; gene therapy.
                                                                                      epidermidis
                                                                                         ORF
                                                                                         amino acid sequence SEQ ID NO:5172
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ABN90538 to ABN93374 represent Staphylococcus epidermidis open reading frame (ORF) nucleic acid sequences which encode the amino acid sequences given in ABP35124 to ABP37960. The S. epidermidis sequences have antibacterial activity and can be used in gene therapy. The sequences can also be used in the diagnosis and treatment of bacterial infections, particularly S. epidermidis infections. The sequences can be used to screen for compounds able to interfere with the S. epidermidis life cycle or inhibit S. epidermidis infection. N.B. The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from the USPTO web site Sequence 156 AA;

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문 Š 밁 Ş Matches Query Match Best Local : Local 103 61 48 1 MTTDFSCILLVVAVCAVITFALRAVPFLILKPLRESQFVGKMAMWMPAGILAILTASTFR 60 28; Similarity DGVIQQHDHAFGYTLNLPYIIAIVPTVMLAIFTRSLTVTILGG----IFV SNAIDLKTLTFG-----LIAVAITVVAHLLGGRRTLLSVGAGTIVFV 102 MTTDLHTLVLIV-LCGVVTLLVRVIPFIMISRVNLPAIVIKWLSFIP---ITLFTALII-Conservative 15.7%; 22; Score 82.5; Pred. No. 0 Mismatches .056; DB 5; 44; Length 156; Indels 15; 148 Gaps 102 ú

RESULT 11
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AC AAB9 Putative P. abyssi sodium/calcium antiporter 29-OCT-2001 AAB96384; AAB96384 standard; protein; 314 AA (first entry)

Hyperthermophilic archaeon; hyperthermophilic protein.

FR2792651-A1 Pyrococcus abyssi.

21-APR-1999; 21-APR-1999; 99FR-00005034. 99FR-00005034 27-0CT-2000

(CNRS) CNRS CENT NAT RECH SCI RECH EXPL MER.

Forterre P, Querellou J, Thierry JC, Pr. Weissenbach J, Prieur D, Dietrich J, J, Saurin W, Heilig ø Lecompte

WPI; 2001-126236/14

useful in nucleotide sequences isolated ful in industry. from Pyrococcus abyssi encode proteins

Claim 7; Page 1068-1069; 1657pp; French.

The present invention relates to the genomic sequence of Pyrococcus abyssi (see AAP86431 and AAH41223-7) and P. abyssi proteins. P. abyssi a hyperthermophilic archaeon, which is isolated from deep-sea hydrothermal vents. The present sequence is one such P. abyssi protein. The proteins of the present invention have various potential industrial uses, since the proteins are stable at very high temperatures, some up 110 degrees centigrade. Note: This patent is in the same patent family w0200065062, which contains additional sequences as shown in AAB99132-AAB99143, AAH75903-AAH75920 and AAG66436 18 as

Sequence 314 AA

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RESULT 8
ABR42399
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23-JAN-2002; 2002US-0350019P.
19-JUN-2002; 2002US-0389538P.
26-SEP-2002; 2002US-0413597P.
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antiinflammatory; gene therapy.
                                     WPI; 2003-441359/41.
N-PSDB; ACC58111.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Adenylate cyclase; enzyme; human;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human type I adenylate cyclase.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               125
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          standard; protein; 1119
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Pred. No.
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ve; analgesic; an
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New polynucleotide encoding a type I adenylate cyclase polypeptide, useful for diagnosing, preventing or treating diseases associated with type I adenylate cyclase dysfunction, e.g. CNS disease or diabetes.
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                                                                                                                                                                                                                   Buchrieser C, Frangeul L, Couve E, Rusnick C, Fsihi H, Dehoux P; Dussurget O, Chetouani F, Nedjari H, Glaser P, Kunst F, Cossart Daniels J, Goobel W, Kreft J, Kuhn M, Mg E, Vazquez-Boland JA; Dominguez-Bernal G, Garrido-Garcia P, Tierrez-Martinez A, Amend A; Chakraborty T, Domann E, Hain T, Berche P, Charbit A, Durant L; Perez-Diaz J, Baquero F, Garcia Del Portillo F, Gomez-Lopez N; Maduenio E, De Pablos B, Wehland J, Kaerst U, Entian K, Hauf J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Antibacterial; gene therapy; vaccine; biosynthesis; biodegradation; vitamin B12; bacterial infection; disease.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Listeria monocytogenes protein
                                                                                                                                 WPI; 2002-010914/01.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (INSP ) INST PASTEUR.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     184 AIGFGLVVAASHLLVTATLVPAKRPRLWRTLGANALLFVG-VNMY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               68
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VAVCAVITEALRAVPELILKPLRESQEVGKMAMMPAGILAILTASTERSNAI----DLK
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Pred. No. 0.29
18; Mismatches
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Genomic sequence for Listeria monocytogenes, useful e.g. for and prevention of Listeria and related bacterial infections, polypeptides.

for treatment

and related

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ABR42400
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Matches
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             The present sequence is the protein sequence of a splice variant of human type I adenylate cyclase (see also ARR42399), an enzyme that catalyses the synthesis of cAMP from ATP. The invention provides reagents that regulate human type I adenylate cyclase and reagents which bind human type I adenylate cyclase encoding e.g. present sequence, can be used to modulate the activity of human type I adenylate cyclase in a disease, especially a central nervous system (CNS) disorder, diabetes and chronic obstructive pulmonary disorder (claimed). The CNS disorders may include Alzheimer's disease, Parkinson's disease, stroke or neuropathic pain.

Type I adenylate cyclase can be obtained by recombinant methods, and used to screen for activator and inhibitor compounds
                                                                                                                                                                                                                                                                                                                                                                     29-OCT-2001; 2001US-0330710P
27-0072; 2002US-03500195
26-SEP-2002; 2002US-0389538P
26-SEP-2002; 2002US-0413597P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   antiparkinsonian;
antiinflammatory;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Adenylate cyclase; enzyme; human; neuroprotective; nootropic; antiparkinsonian; cerebroprotective; analgesic; antidiabetic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABR42400
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                                                                                                                                                                                                                    New polynucleotide encoding a type I adenylate cyclase polypeptide, useful for diagnosing, preventing or treating diseases associated w type I adenylate cyclase dysfunction, e.g. CNS disease or diabetes.
                                                                                                                                                                                                                                                                        WPI; 2003-441359/41.
N-PSDB; ACC58112.
                                                                                                                                                                                                                                                                                                                                                                                                                                         29-OCT-2002; 2002WO-EP012059
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human type I adenylate cyclase
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                                                                                                                                                                                           Claim 1; Page 139-140; 167pp; English
                                                                                                                                                                                                                                                                                                                                              (FARB
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CFLL---VCLVLTLLMXTEIGLVLRSTGDNIPMSEANGVNVDTMKIVGYMISNGLIALCG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         standard;
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gene therapy.
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Pred. No. 0.029;
11; Mismatches 39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         splice variant
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                                                                                                                                                                                                                                                                 31-AUG-2000;
22-SEP-2000;
29-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; adenylyl and guanylyl cyclase; ADGUC-5; cardiovascular disorder; angina pectoris; myocardial infarction; vision disorder; keratitis; cititis; cataract; neurological disorder; epileps; Alzheimer's disease; pick's disease; troke; mental disorder; mood and anxiety disorder; reproductive disorder; infertility; endometriosis; impotence; asthma; smooth muscle disorder; migraine; bacterial infection; gene therapy;
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                                                                                                                                                            Gandhi
Baughn
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04-AUG-2000;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human adenylyl and
             Novel human adenylyl and guanylyl cyclases and polynucleotides encoding the cyclases, useful for treating, diagnosing or preventing cardiovascular, neurological, vision, reproduction and smooth muscle
                                                                                                       N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                           26-JUN-2001; 2001WO-US020491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200202757-A2
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                                                                                                                         2002-154740/20
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                                                                                                                                                                                                                                                                 ; 2000US-0215476P.
; 2000US-0223545P.
; 2000US-0229876P.
; 2000US-0234838P.
; 2000US-0236483P.
                                                                                                                                                              Tribouley
Thornton M
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294. .478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  note= "Guanylate cyclase motif"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            'note= "Adenylate and guanylate cyclase catalytic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'note= "Adenylate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   notes
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                                                                                                                                                                                                                                                                                                                                                                                                   The present invention is related to a Lactococcus lactis nucleotide sequence (ABA90521) and related proteins (ABB53300-ABB55521). The nucleic acid sequence is useful in the detection and/or amplification of nucleic acid sequence, particularly to identify Lactococcus lactis or related species. The proteins of the invention are useful for the biosynthesis or biodegradation of a composition of interest. The invention helps research in lactic bacteria, particularly useful in the production of yogurt and cheese. Note: The sequence data for this patent is based on equivalent patent w0200177334 (published 18-0CT-2001) which is available in electronic format directly from WIPO at the production of the published pot sequences. (Updated on 29-AUG-2003 to standardise OS field)
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                                                     62 NAIDLKTLTF-GLIAVAITVVAHLLGGRRTLLSVGAGTIVFVGLVNL 107
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the polypeptide; (5) producing the polypeptide; (6) inhibiting cellular CC proliferation or the activity of a gene in an operon required for CC proliferation; (7) identifying a compound that influences the activity of identifying a compound that influences the activity of identifying a gene product or that has an activity against a biological pathway CC required for proliferation, or that inhibits cellular proliferation; (8) identifying a gene required for cellular proliferation or the biological CC pathway in which a proliferation-required gene or its gene product lies or a gene on which the test compound that inhibits proliferation of an CC compound's activity; (11) a culture comprising strains in which the gene product is overexpressed or underexpressed; (12) determining the extent to which each of the strains is present in a culture or collection of strains; or (13) identifying the target of a compound that inhibits the condition of an organism. The antisense nucleic acids are useful for cellular proliferation to isolate candidate molecules for rational conditions or screening for homologous nucleic acids required for proliferation in cells other than S. aureus, S. typhimurium, the target prokaryotic essential genes. Note: The sequence data for this condition format directly from WIPO at the sequence data for this first the condition of the printed specification, but was obtained constant of the printed specification, but was obtained constants.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (1) a vector comprising a promoter operably linked to the nucleic acid encoding a polypeptide whose expression is inhibited by the antisense nucleic acid; (2) a host cell containing the vector; (3) an isolated polypeptide or its fragment whose expression is inhibited by the antisense nucleic acid; (4) an antibody capable of specifically binding the polypeptide; (5) producing the polypeptide; (6) inhibiting cellular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21-MAR-2001; 2001US-00815242.

06-SEP-2001; 2001US-00948993.

25-OCT-2001; 2001US-0342923P.

08-FEB-2002; 2002US-00072851.

06-MAR-2002; 2002US-0362699P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         the 6213 antisense sequences given in the specification where expression of the nucleic acid inhibits proliferation of a cell. Also included are: (1) a vector comprising a promoter operably linked to the nucleic acid
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Trawick
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Forsyth
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Xu HH;
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The present invention provides a number of nucleotide and protein sequences from the Coryneform bacterium Corynebacterium glutamicum. These are useful for identifying the mutation point of a gene derived from a mutant of coryneform bacterium, measuring expression amount and analysing the expression profile or expression pattern of a gene derived from Coryneform bacterium, and identifying a homologue of a gene derived from coryneform bacterium. Coryneform bacterium are useful for producing amino acids, nucleic acids, vitamins, saccharides and organic acids, control particularly L-lysine. The present sequence is a protein described in the
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07-APR-2000;
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DB; AAH65255.
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Senoh A,
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2000JP-00159162.
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Pred. No. 4.1e-57;
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Ozaki A;
                                                                                                                                                                                                                                                                                                     Sequence Listing; English
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07-APR-2000;
03-AUG-2000;
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                                         The present invention provides a number of nucleotide and protein sequences from the Coryneform bacterium Corynebacterium glutamicum. These are useful for identifying the mutation point of a gene derived from a mutant of coryneform bacterium, measuring expression amount and analysing the expression profile or expression pattern of a gene derived from Coryneform bacterium, and identifying a homologue of a gene derived from coryneform bacterium. Coryneform bacteriam are useful for producing amino acids, nucleic acids, vitamins, saccharides and organic acids, particularly L-lysine. The present sequence is a protein described in the exemplification of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from the European Patent Office
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Tateishi
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Ozaki A;
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Aag93036 C glutami
Aag93153 C glutami
Abb54958 Lactococc
Abu45714 Protein e
Abr42400 Human typ
Aael7133 Human ade
Abr42399 Human typ
Abb47960 Listeria
Abp40327 Staphyloc
Aab96384 Putative
Abm67632 Photorhab
Abu44538 Protein e
Aab79004 C. glutami
Aag92622 C glutami
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S. cinnam
N. gonorr
Human olf
Human G p
Human olf
Human G-p
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Adenylyl
Bovine ad
Sequence
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ALIGNMENTS

RESULT 1 AAB86248 ID AAB8 C. glutamicum brnE protein AAB86248; AAB86248 standard; protein; 108 L-amino acid production; brnF; brnE; branched-chain amino acid; coryneform bacterium; leucine; isoleucine; valine; medicine; 05-SEP-2001 New export genes from coryneform bacteria, useful for increasing fermentative production of branched-chain amino acids. WPI; 2001-391595/42. N-PSDB; AAH21109, AAH21111. 27-OCT-1999; EP1096010-A1. Corynebacterium glutamicum animal nutrition. Kennerknecht N, (DEGS) 11-OCT-2000; 2000EP-00122057. 02-MAY-2001. DEGUSSA AG. FORSCHUNGSZENTRUM JUELICH GMBH. (first 99DE-01051708 Eggeling L, entry) Sahm H, B Pfefferle W;

This invention describes a novel isolated polynucleotide (I) containing at least one sequence that (i) is 70% identical with a sequence that encodes at least one of 251 amino acid (aa) (3) or 108 aa (5) polypeptides; (ii) encodes a polypeptide at least 70% identical with (3) or (5); (iii) is the complement of (i) or (ii), or (iv) contains at least 15 consecutive bases from (i)-(iii). The invention also describes (a) protein derived from sequences of 753 bp (2) or 324 bp (4); (b) coryneform microorganisms, especially Corynebacterium, transformed with one or more (I), where these are replicative DNA; (c) production of branched-chain L-aa by fermentation of coryneform bacteria in which the brnE and/or brnF genes (or equivalent sequences) are amplified,

least

Claim 1a; Page 17; 23pp; German.

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TITLE
JOURNAL
COMMENT
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CK295424
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AUTHORS
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Matches 103; Conserv
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Nicotiana benthamiana

Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;

asterids; lamiids; Solanales; Solanaceae; Nicotiana.

E 1 (bases 1 to 936)

B buell, C.R., Hart, A., Zismann, V., Karamycheva, S.A., Day, B.,

Staskawicz, B., Jin, H. and Baker, B.

Generation of EST sequences from Nicotiana benthamiana

Unpublished (2003)

Other ESTs: EST758139

Contact: Robin Buell

The Institute for Genomic Research

9712 Medical Center Dr., Rockville, MD 20850, USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Email: potato-array@tigr.org
Clones can be requested from TIGR via potato@tigr.org
Seq primer: ATT TAG GTG ACA CTA TAG.
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                                             GGATGCCAGCAGGAATCCTTGCCATTTTGACCGCATCAACGTTTCGCAGCAATGCGATAG
                                                                                                                                         TTCCGTTCTTAATCCTTAAGCCCCTACGTGAATCACAATTTGTGGGCAAAATGGCGATGT 133
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     GGATGATACCACAAGTGTTTTCATTTGCTTTGGAATTCCCCAATTATGAAGTTTTTGCAAG
                                                                                                TTCTAATGTTAATCGGTCAGCCCGAAAACATCTCAAGGTGGGCGGGAAATTCGCGCGCTGT 478
                                                                                                                                                                                       10.7%;
ilarity 47.5%;
Conservative
                                                                                                                                                                                                                                                                                                       /lab host="DHIOB-TonA"

/clone_lib="Nicotiana benthamiana mixed tissue cDNA
library, normalized, full-length"
/note="Vector: pONVSport6.1, Site 1: EcoRI; Site 2: NotI;
supplier: RNA was isolated from Nicotiana benthamiana
tissues that include callus, roots from liquid culture
grown plants, heat-streesed leaves (38 C, 3 hr and 6 hr),
cold-stressed leaves (5 C 3 hr, 6hr), and pathogen
challenged leaves (5 E C 3 hr, 6hr), and pathogen
challenged leaves (5 E C 3 hr, 6hr), and pathogen
campestris pv campestris 12 hr, 18hr;
Resudomonas syringae pv phaseolicola 18hr, and Xanthomonas
campestris pv vesicatoria 18hr). RNA was isolated from
these tissues and pooled in approximately equal molar
amounts."
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|mol_type="mRNA"
|db_xref="raxon:4100"
|clone="NBMCU77"
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                                                                                                                                                                                                                   Score 34.6; DB 14;
Pred. No. 26;
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Search completed: April 17, 2004, 20:01:47 Job time : 1053.18 secs

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RESULT 13
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890 bp mRNA linear EST 15-DEC-2003
EST751370 Nicotiana benthamiana mixed tissue cDNA library,
normalized, full-length Nicotiana benthamiana cDNA clone NBMBI02 5'
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Buell, C.R., Hart, A., Zismann, V., Karamycheva, S.A., Day, B., Staskawicz, B., Jin, H. and Baker, B.
Generation of EST sequences from Nicotiana benthamiana Unpublished (2003)
Contact: Robin Buell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Email: potato-array@tigr.org
Clones can be requested from TIGR via potato@tigr.org
Seg primer: ATT TAG GTG ACA CTA TAG.
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                                  TTCCGTTCTTAATCCTTAAGCCCCCTACGTGAATCACAATTTGTGGGCAAAATGGCGATGT 133
    TTCTAATGTTAATCGGTCAGCCCGAAAACATCTCAAGGTGGGCGGGGAAATTCGCGCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mRNA sequence.
                                                                                                                                                                          /clone_lib="Nitotiana benthamiana mixed tissue cDNA library, normalized, full-length" /note="Vector: pcMvSport6.1; Site 1: EcoRI; Site 2: NotI; /note="Vector: pcMvSport6.1; Site 1: EcoRI; Site 2: NotI; /note="Vector: pcMvSport6.1; Site 1: EcoRI; Site 2: NotI; /supplier: RNA was isolated from NITotiana benthamiana tissues that include callus, roots from liquid culture grown plants, heat-stressed leaves (3 C, 3 hr and 6 hr), cold-stressed leaves (5 C 3 hr, 6hr), and pathogen challenged leaves (5 C 3 hr, 6hr), and pathogen challenged leaves (5 C 3 hr, 18hr; Pseudomonas campestris pv campestris 12 hr, 18hr; Pseudomonas syringae pv phaseolicola 18hr, and Xanthomonas campestris pv vesicatoria 18hr; RNA was isolated from these tissues and pooled in approximately equal molar amounts."
                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                          /tissue_type="abiotic and biotic stress-treated leaves, callus tissue and root tissue" /lab_host="DH10B-TONA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /mol_type="mRNA"
/db_xref="taxon:4100"
/clone="NBMBI02"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   organism="Nicotiana benthamiana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ocation/Qualifiers
                                                                                                   10.7%;
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                                                                                                   Score 34.6;
Pred. No. 25;
                                                                                 Mismatches 114;
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                                             495
                                                                                                                                            Similarity
  GGATGCCAGCAGGAATCCTTGCCATTTTGACCGCATCAACGTTTCGCAGCAATGCGATAG
                                             TTCTAATGTTAATCGGTCAGCCCGAAAACATCTCAAGGTGGGCGGGGAAATTCGCGCTGT
                                                                             TTCCGTTCTTAATCCTTAAGCCCCCTACGTGAATCACAATTTGTGGGCAAAATGGCGATGT
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134 GGATGCCAGCAGGAATCCTTGCCATTTGACCGCATCAACGTTTCGCAGCAATGCGATAG
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Nicotiana benthamiana
Nicotiana benthamiana
Eukaryota, Viridiplantae, Streptophyta; Embryophyta; Tracheophyta;
Eparmatophyta; Magnollophyta; eudicotyledons; core eudicots;
seteride; lamiide; Solanales; Solanaceae; Nicotiana.
1 (bases 1 to 922)
Buell, C.R., Hart, A., Zismann, V., Karamycheva, S.A., Day, B.,
Staskawicz, B., Jin, H. and Baker, B.
Generation of EST sequences from Nicotiana benthamiana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CK295854 Page 15-DEC-2003 CK295856 Nicotiana benthamiana mixed tissue cDNA library, normalized, full-length Nicotiana benthamiana cDNA clone NBMCX72 5'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Email: potato-array@tigr.org
Clones can be requested from TIGR via potato@tigr.org
Seq primer: ATT TAG GTG ACA CTA TAG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Contact: Robin Buell
The Institute for Genomic Research
9712 Medical Center Dr, Rockville,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Unpublished (2003)
Other_ESTs: EST758569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CK295854.1 GI:39880657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      end, mRNA sequence.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGATGATACCACAAGTGTTTTCATTTGCTTTGGAATTCCCCAATTATGAAGTTTTTGCAAG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTTTTACTTGGCTTTTGATGCTGAAGCTAGGCTGGGG 759
/tissue_type="abiotic and biotic stress-treated leaves, callus tissue and root tissue"
/lab host="BHIOB-TonA"
/lab host="BHIOB-TonA"
/clone lib="Nicotiana benthamiana mixed tissue cDNA
library, normalized, full-length"
/note="Vector: pCMVSport6.1; Site_1: EcoRI; Site_2: NotI;
supplier: RNA was isolated from Nicotiana benthamiana
tissues that include callus, roots from liquid culture
grown plants, heat-stressed leaves (3 C, 3 hr and 6 hr),
cold-stressed leaves (5 C 3 hr, 6hr), and pathogen
challenged leaves (Feeudomonas syringae pv tomato 12 hr;
Xanthomonas syringae pv phaseolicola 18hr, 18hr;
Pseudomonas syringae pv phaseolicola 18hr, and Xanthomonas
campestris pv vesicatoria 18hr). RNA was isolated from
these tissues and pooled in approximately equal molar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /mol_type="mRNA"
/db_xref="taxon:4100"
/clone="NBMCX72"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Nicotiana benthamiana'
/mol_type="mRNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            . 922
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Conservative

<u>0</u>

Score 34.6; DB 14; Pred. No. 26; 0; Mismatches 114;

Indels Length

0

gaps

193 554 133 0 922;

10.7%;

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REFERENCE
AUTHORS
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CB239541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       154 GCCATTTTGACCGCATCAACGTTTCGCAGCAATGCGATAGATCTGAAGACTCTAACCTTT 213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CB239541 two-month-old roots from clone 'Beaupre' grown for 19 days under restricted irrigation Populus balsamifera subsp. trichocarpa x Populus deltoides cDNA 5', mRNA sequence.
CB239541 CB239541.1 GI:30233030
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Equipe de Microbiologie Forestiere
Institut National de la Recherche Agronomique
Centre INRA de Nancy, 54280 Champenoux, France
Tel: +33 383 39 40 89
Fax: +33 383 39 40 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Populus balsamifera subsp. trichocarpa x Populus deltoides
Populus balsamifera subsp. trichocarpa x Populus deltoides
Populus balsamifera subsp. trichocarpa x Populus deltoides
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: fmartin@nancy.inra.fr
Insert Length: 413 Std Error: 0.00
Seq primer: Fornat 5', AAGCGCGCCATTGTGTTGGTACCC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Unpublished (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kohler,A., Delaruelle,C., Martin,D. and Martin,F. The poplar root transcriptome: analysis of 7000 e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cosids, eurosids I, Malpighiales, Salicaceae, Saliceae, Populus. (bases 1 to 413)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGTCTCATTGCCGTTGCGATTACAGTGGTGGCGCATCTTCTTGGCGGTCGACGCACCTTG
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/tissue_type="PLACENTA COT 25-NORMALIZED"
/tissue_type="PLACENTA COT 25-NORMALIZED"
/clone_lib="Homo sapiens PLACENTA COT 25-NORMALIZED"
/note="Ist strand cDNA was primed with a NotI-oligo(dT)
primer. Five prime end enriched, double-strand cDNA was
digested with Not I and cloned into the Not I and EcoR V
sites of the pCMVSPORT 6 vector. Library was normalized."
                /dev_stage="two-month-old"
/dlone lib="two-month-old roots from clone 'Beaupre' grown for 19 days under restricted irrigation"
/note="Organ: root; Vector: pTriplEx2; cDNA library of roots from two-month-old Populus trichcoarpa Torr. & Gray x deltoides Bartr. Ex Marshall (clone 'Beaupre') grown for 19 days under restricted irrigation to reach 50% of the transpiration rate of fully watered plants. The cDNA library was constructed from 1 ug of total RNA using the SMART cDNA synthesis kit (Clontech, Palo Alto, CA, USA) according to the manufacturer's instructions. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Martin FM
                                                                                                                                                                                                                                                                                                                                                                                          /organism="Populus balsamifera subsp. trichocarpa
Populus deltoides"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        location/Qualifiers
                                                                                                                                                                                                                                                                                                               db_xref="taxon:3695"
                                                                                                                                                                                                                                                                                                                                           cultivar="'Beaupre'"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10.7%;
                                                                                                                                                                                                                                                                                                                                                                 type="mRNA"
cDNA was packed
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Pred. No. 25
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     into
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  lambda phages using the
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CK297477
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AUTHORS
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nicotiana benthamiana
Nicotiana benthamiana
Eukaryota, Viridiplantae, Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnollophyta; eudicotyledons; core eudicots;
Spermatoshyta; Magnollophyta; Solanaceae; Nicotiana.
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EST 15-DEC-2003

EST760191 Nicotiana benthamiana mixed tissue cDNA library,

normalized, full-length Nicotiana benthamiana cDNA clone NBMD912 5'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Buell,C.R., Hart,A., Zismann,V., Karamycheva,S.A., Day Staskawicz,B., Jin,H. and Baker,B. Generation of EST sequences from Nicotiana benthamiana Unpublished (2003)
Other ESTs: EST760192
Contact: Robin Buell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The Institute for Genomic Research 9712 Medical Center Dr, Rockville, MD Email: potato-array@tigr.org Clones can be requested from TIGR via Seq primer: ATT TAG GTG ACA CTA TAG.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CK297477.1
EST.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGGGTTCCGGCGGCCACCAGGNTTCCTGGC 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (bases 1 to 853
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
/tissue_type="abiotic and biotic stress-treated leaves, callus tissue and root tissue"
/lab host="MilOB-TonA"
/clone lib="Nicotiana benthamiana mixed tissue cDNA
/clone lib="Nicotiana benthamiana mixed tissue cDNA
library, normalized, full-length"
/note="Vector: pCMVSport6.1; Site_1: EcoRI; Site_2: NotI;
supplier: RNA was isolated from Nicotiana benthamiana
tissues that include callus, roots from liquid culture
grown plants, heat-stressed leaves (38 C, 3 hr and 6 hr),
cold-stressed leaves (5 C 3 hr, 6hr), and pathogen
challenged leaves (Pseudomonas syringae pv tomato 12 hr;
Xanthomonas syringae pv phaseolicola 18hr, and Xanthomonas
campestris pv cesicatoria 18hr). RNA was isolated from
these tissues and pooled in approximately equal molar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gigapack III Gold packaging kit (Stratagene, La Jolla, CA). The pTripLEx2 phagemid clones in Escherichia choli were obtained by using the mass in vivo excision prococol according to the manufacturer's instructions (Clontech)."
                                                                                                                                                                                                                                                                                                                                                                                                         db_xref="taxon:4100"
                                                                                                                                                                                                                                                                                                                                                                                                                           organism="Nicotiana/mol_type="mRNA"
                                                                                                                                                                                                                                                                                                                                                                               clone="NBMD912"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GI:39883902
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Pred. No. 19;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Karamycheva, S.A., Day, B.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 14;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         potato@tigr.org
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Query Match 10.7%; Best Local Similarity 47.5%; Matches 103; Conservative

0

Score 34.6; D Pred. No. 25; O; Mismatches

DB 14;

Length Indels

853;

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Gaps

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BI144284
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VERSION
                                                                                           TITLE
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COMMENT
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ORGANISM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Fukuda,S., Hashizume,W., Hayashida,K., Hirozane,T., Hori,F., Imotani,K., Ishii,Y., Itoh,M., Kagawa,I., Kawai,J., Kojima,Y., Kondo,S., Konno,H., Koya,S., Miyazaki,A., Muratata,M., Nakamura,M., Nomura,K., Numazaki,R., Ohno,M., Ohsato,N., Saito,R., Sakazume,N., Sano,H., Sasaki,D., Sato,K., Shibata,K., Shiraki,T., Tagami,M., Sano,H., Sasaki,D., Sato,K., Shibata,K., Shiraki,T., Tagami,M., Sakada,Y., Waki,K., Watahiki,A., Muramatsu,M. and Hayashizaki,Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Computational Analysis of Full-Length Mouse cDNAs Compared with Human Genome Sequences Mamm. Genome. 12, 673-677 (2001)

Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes. Genome Res. 10 (10), 1617-1630 (2000)

RIKEN integrated sequence analysis (RISA) system-384-format
                                                                                                                                                                                                                                                                                                                                                                                                                                                     808 bp mRNA linear EST 05-JUL-2001
602907355F1 NCI CGAP_Kid14 Mus musculus cDNA clone IMAGE:5064373
5', mRNA sequence.
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Tissues were provided by Dr. John Todd (Dept. of Medical Genetics Tissues were provided by Dr. John Todd (Dept. of Medical Genetics Wellcome Trust Centre for Molecular Mechanisms in Disease Wellcome Trust Cutto (Dept. de Trust Centre for Molecular Mechanisms in Disease Wellcome Trust (Marc building Addenbrookes Hospital Cambridge) whose assistance we gratefully acknowledge.

Please visit our web site (http://genome.gsc.riken.go.jp) for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Computer-based methods for the mouse full-length cDNA encyclopedia: real-time sequence clustering for construction of a nonredundant cDNA library. Genome Res. 11 (2), 281-289 (2001) cDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken contributed to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sequencing pipeline with 384 multicapillary sequencer.
10 (11), 1757-1771 (2000)
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Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Jeffrey E. Green,
cDNA Library Preparation: Life Techno
                                                                                                                                                                                                                                                                                                                                                                                                       BI144284.1 GI:14604285
                                                                                                                                                      NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; 1
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae;
1 (bases 1 to 808)
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/tissue_type="activated spleen"
/clone_lib="kIKEN full-length enriched, activated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /organism="Mus musculus"
/mol_type="mRNA"
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Pred. No. 20;
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High quality sequence stop: 793.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information
found through the I.M.A.G.E. Consortium/LLNL at:
http://imagg.llnl.gov
plate: LLAM11173 row: m column: 14
                                                                                                        Email: Seqref@genoscope.cns.fr, Web: www.genoscope.cns.fr
Library was constructed by Life Technologies, a division of
Invitrogen. This sequence belongs to sequence cluster 4682.r For
more information about this cluster, see
http://www.genoscope.cns.fr/
ogi-bin/cluster.ggi?seq=CS0AI052DA090Pl&cluster=4682.r. Contact
Feng Liang Email: fliang@lifetech.com URL:
http://fulllength.invitrogen.com/ InVitroGen Corporation 1600
Faraday Avenue Genoscope sequence ID: CS0AI052DA09QPl.
                                                                                                                                                                                                                                                                                                                                                                                      Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 1201)

Li,W.B., Gruber,C., Jessee,J. and Polayes,D.

Full-length cDNA libraries and normalization

Unpublished (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BX387771 1201 bp mRNA linear BX387771 Homo sapiens PLACENTA COT 25-NORMALIZED FCLORE CSODIO527B18 5-PRIME, mRNA sequence.
                                                                                                                                                                                                                                                                                                                  Genoscope - Centre National de Sequencage
BP 191 91006 EVRY cedex - France
                                                                                                                                                                                                                                                                                                                                                                       Contact: Genoscope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
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/clone="IMAGE:5064373"
/clone="IMAGE:5064373"
/lab_host="DH10B (T1 phage-resistant)"
/clone lib="NCI CGAP Kid14"
/note="Organ: kidney; Vector: pCMV-SPORT6; Site 1: Site 2: SalI; Cloned unidirectionally. Primer: Oli Average insert size 1.75 kb. Constructed by Life Technologies. Note: this is a NCI_CGAP Library. | "
/organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                       Location/Qualifiers
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Pred. No. 21;
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imer: Oligo dT.
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Best Local S
Matches 62
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Determination of this BAC-end sequence was carried out as part of a collaboration with the Berkeley Drosophila Genome Project (BDGP). The BDGP is constructing a physical map of the Drosophila melanogaster genome using these BACs. For further information please see http://www.fruitfly.org The BDGP Drosophila melanogaster BAC library was prepared by Kazutoyo Osocgawa and please see http://www.fruitfly.org The BDGP Drosophila melanogaster BAC library was prepared by Kazutoyo Osocgawa and Aaron Mammoser in Pieter de Jong's laboratory in the Department of Cancer Genetics at the Roswell Bark Cancer Institute in Buffalo, NY. The library is named RPCI-98 and was constructed by partial EGORI digestion of Drosophila DNA provided by the BDGP from the isogenic strain y2; on bw sp. the same strain used for the BDGP's pl and EST libraries. A more detailed description of the library and how to order individual BAC clones, the entire library, or filters for hybridization from the BACPAC Resource Center can be found at http://bacpac.med.buffalo.edu/drosophila_bac.htm.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               332
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Drosophila melanogaster
Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
1 (bases 1 to 1101)
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AL056828.1 GI:4937496
GSS.
                                                                                                                                                                         l Similarity
62; Conserv
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BP 191 91006 EVRY cedex - FRANCE (B-mail : seqref@genoscope.cns.fr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
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/db xref="taxon:4577"
/clone="zMMBTa530007"
/clone_lib="ZM_0.6_1.0 KB"
/clone_lib="ZM_0.6_1.0 KB"
/note="Vector: pCR4-TOFO; Site_1:
/note="Vectod genomic DNA library"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Drosophila melanogaster"
/mol_type="genomic DNA"
/db_xref="taxon:7227"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                 clone="BACR23H11"
/clone_lib="RPCI-98"
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Pred. No. 17
                                                                                                                                                                                 Score 35.2; D
Pred. No. 18;
1; Mismatches
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COMMENT

Contact: Yoshihide Hayashizaki
Laboratory for Genome Exploration Research Group,
Sciences Genter(GSC), Yokohama Institute
The Institute of Physical and Chemical Research (I
1-7-22 Sushiro-cho, Tsurumi-ku, Yokohama, Kanagaw

Yokohama, Kanagawa 230-0045, Japan

(RIKEN) RIKEN

Email: genome-res@gsc.riken.go.jp, URL:http://genome.gsc.riken.go.jp/ Adachi,J., Aizawa,K., Akimura,T.,

Arakawa, T., Carninci, P

Fax: 81-45-503-9216

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RESULT 8
BY765711
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SOURCE
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JOURNAL
MEDLINE
PUBMED
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                                                    Nikaido, I., Osato, N., Kasukawa, T., Adachi, J., Bono, H., Kondo, S., Nikaido, I., Osato, N., Salto, R., Suzuki, H., Yamanaka, I., Xiyosawa, H., Yagi, K., Tomaru, Y., Hasegawa, Y., Nogami, A., Schonbach, C., Gojobori, T., Baldarelli, R., Hill, D.P., Bult, C., Schonbach, C., Gojobori, T., Baldarelli, R., Hill, D.P., Bult, C., Schonbach, C., Corbani, L.E., Cousins, S., Dalla, E., Dragani, A., Hamber, C.F., Forrest, A., Frazer, K.S., Gaasterland, T., Chothia, C., Corbani, L.E., Cousins, S., Dalla, E., Dragani, T.A., Fletcher, C.F., Forrest, A., Frazer, K.S., Gaasterland, T., Garriboldi, M., Gissi, C., Godzik, A., Gough, J., Grimmond, S., Gustincich, S., Hirokawa, N., Jackson, I.J., Jarvis, E.D., Kanai, A., Kawaji, H., Kawasawa, Y., Kedzierski, R.M., King, B.L., Konagaya, A., Kurochkin, I.V., Lee, Y., Lenhard, B., Lyons, P.A., Maglott, D.R., Narchionni, L., McKenzie, L., Miki, H., Nagashima, T., Maltais, L., Marchionni, L., McKenzie, L., Miki, H., Nagashima, T., Petrovsky, N., Pillai, R., Pontius, J.U., Qi, D., Ramachandran, S., Petrovsky, N., Pillai, R., Pontius, J.U., Qi, D., Ramachandran, S., Petrovsky, N., Pillai, R., Pontius, J.U., Ring, B.Z., Ringwald, M., Sandelin, A., Schneider, C., Reed, D.J., Reid, J., Ring, B.Z., Ringwald, K., Sandelin, A., Schneider, C., Semple, C.A., Setou, M., Shimada, K., Venardo, R., Wann, J., Zavolan, M., Zhu, Y., Zimmer, A., Carninci, P., Yang, L., Yang, L., Wann, J., Zavolan, M., Zhu, Y., Zimmer, A., Carninci, P., Yang, L., Wann, Z., Zavolan, M., Zhu, Y., Zimer, A., Makamura, M., Yang, I., Watawa, T., Konno, H., Nakamura, M., Sakazume, N., Sato, K., Sandhizaki, Y., Sasaki, D., Shibata, K., Sasaki, D., Shibata, K., Sasaki, D., Shibata, K., Sasaki, D., Shibata, K., Sasaki, D., Shibata, K., Sakaga, S., Hara, A., Hashizume, W., Imotani, K., Ishii, Y., Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs
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BY765711 GI:27203910
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Mus musculus (house mouse)
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en Mus musculus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: Nahm B.H.
Genomics and Genetics Institute, GreenGene Biotech Inc.; Division of Bioscience and Bioinformatics, MyongJi University
Yongin, Kyeenggi, Korea
Tel: 82 31 330 6193
Fax: 82 31 321 6355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 (bases 1 to 475)
Kim,J.S., Jun,K.M., Cheong,P.J., Kim,M.J., Losong,S.I., Kim,J.K., Kim,Y.-K. and Nahm,B.H.
Large-scale Sequencing Analysis of Rice ESTs
Unpublished (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bukaryota, Viridiplantae, Stre
Spermatophyta, Magnoliophyta,
Ehrhartoideae, Oryzeae, Oryza.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CF338060 475 bp mRNA linear DMT--08-M05.bl AtJMT-overexpressing transgenic rice library (JMT) Oryza sativa cDNA clone JMT--08-M05, m CF338060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Oryza sativa
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PUCFW05TD ZM_0.6_1.0_KB
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               Eukaryota, Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; PACCAD clade; Panicoideae; Andropogoneae; Zea.

1 (bases 1 to 786)
                                                                                                                                       BZ720836
BZ720836.1 GI:28512409
Whitelaw, C.A.,
                                                                                    Zea mays
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                                                                                                         Zea mays
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                                                                                                                                                                                                                                                                                                   CACGGCCTTCAGAGAAGCCATTCTTCTGATGCTTCTCTGCTCTGTTCT
                                                                                                                                                                                                                                                                                                                                 AACGTTTCGCAGCAATGCGATAGATCTGAAGACTCTAACCTTTGGTCT 218
                                                                                                                                                                                                                                                                                                                                                                        CGGGCTTGTCGCCGTCTCACTGAGCTTGGCAGCCGGCTCCTTGGCAAGTCCGGCAGGTTT 136
                                                                                                                                                                                                                                                                                                                                                                                                        ATTTGTGGGCAAAATGGCGATGTGGATGCCAGCAGGAATCCTTGCCATTTTGACCGCATC 170
                                                                                                                                                                                                                                                                                                                                                                                                                                            CCTTCTTCTTGGGCTCCCGGGGCTTCTGCTCAGCCTTCTTGACGCCGCCCTTGGCGGCCG 196
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Location/Qualifiers
                                                                                                                                                                           survey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Oryza sativa"
mol type="mRNA"
/cultivar="Nackdong"
/db xref="taxon:4530"
/clone="JMT--08-M05"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /dev stage=14 days after germination"
/lab_host="E.Coli DH10B"
/clone_lib="AtJMT-overexpressing transgenic rice plasmid
cDNA library (JMT)"
/note="Vector: pCR4-TOPO; Site_1: EcoRI; Oligo-capped mRNA
was reverse transcribed and then used for PCR. mRNA was
pepared from Arabidopsis Jasmoinate Carboxyl
methyltransferase overexpression line."
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 Quackenbush, J.,
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; Pred. No. 13;
0; Mismatches
                                                                                                                                                                                            786 bp
3 Zea mays
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yta; Liliopsida; Poales; Poaceae;
Van Aken,S.,
                                                                                                                                                                                          DNA linear GSS 24-FEB-2003 genomic clone ZMMBTa137A09,
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   Utterback, T.
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e plasmid cDNA
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Bennetzen,J.
Maize Genomics Consortium
Unpublished (2003)
                                                                                                                                                                                                                                                                              1 (bases 1 to 910)
Whitelaw, C.A., Quackenbush, J., Var
Resnick, A., Fraser, C.M., Yuan, Y.,
                                                                                                                                                                                                                                                                                                                                     Zea mays
Eukaryota; Viridiplantae; Streptophyta; En
Spermatophyta; Magnoliophyta; Liliopsida;
clade; Panicoideae; Andropogoneae; Zea.
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Fax: 301-838-0208
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CC362201.1
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genomic survey sequence.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Contact: Cathy Whitelaw
                                                                         Seq primer: TF
Class: sheared ends
                                                                                                   Tel: 301-838-5843
Fax: 301-838-0208
Email: whitelaw@tigr.org
                                                                                                                                                                                                            Maize Genomics Consortium Unpublished (2003) Other_GSSs: PUHTK88TB
                                                                                                                                                                                                                                                                     Bennetzen, J
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                                                                                                                                                             9712 Medical
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TATGTTGCACATGTGC 615
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/organism="Zea mays"
/mol_type="genomic DNA"
                                                    location/Qualifiers
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                                                                                                                                                            Center Drive,
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Van Aken,S., Utterback,T., Y., San Miguel,P., Ma,J. and

Embryophyta; Tracheophyta; a; Poales; Poaceae; PACCAD

linear

GSS 16-MAY-2003

MD 20850, USA

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480 GAAAGCAATCAAAAAATTGTTGTCTAGTCTCAAGGTGGTTGCCAACATTGTTGTGGCTTA
                                                                                              189 GATAGATCTGAAGACTCTAACCTTTGGTCTCATTGCCGTTGCGATTACAGTGGTGGCGCA
TCATTTAGGTGTGCATCTTAGAATGGTTATCATTGGCCCCACAACAATCTTGTGAGTCGG
                               TCTTCTTGGCGGTCGACGCACCTTGTTGAGCGTTGGCGCTGGCACCATCGTTTTTGTTGG
                                                                                                                                                                                                               /clone_lib="ZM_0.6_1.0_KB"
/note="Vector: pCR4-TOPO; Site_1:
CoT selected genomic DNA library"
                                                                                                                                                                                                                                                            /strain="B73"
/db_xref="taxon:4577"
/clone="ZMMBTa137A09"
                                                                                                                                                                                                                                                                                                               organism="Zea mays"
/mol_type="genomic DNA"
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                                                                                                                            Score 35.2; D
Pred. No. 16;
0; Mismatches
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Location/Qualifiers
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J. Bacteriol. (2002) In press
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 (bases 1 to 1353)
Spencer, D.H., Raymond, C.K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    University of Washington Box 352145, Seattle, WA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Genome Center
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Contact: Chris K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pseudomonadaceae; Pseudomonas.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sacteria; Proteobacteria; Gammaproteobacteria; Pseudomonadales;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCGCTGGCACCATCGTTTTTGTTGGACTGGTGAATCTTT 322
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                                                                                                                                                                                                                                                                                                                                                                             shotgun.
                                                                                                                                                                                                                                                                                                                                                                                                           craymond@u.washington.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Drosophila melanogaster"
/mol_type="genomic_DNA"
/db_xref="taxon:727"
/clone="BACR12G04"
/clone="BACR12G04"
/clone lib="RPCI-98"
/note="end : TET3"
                          /clone="pacs1-60.663"
/clone lib="pacs1-60"
/note="clinical isolate 1-60 Whole
library."
                                                                                                                                                                                                     /mol_type="genomic DNA"
/strain="1-60"
                                                                                                                                                                                                                                                                     organism="Pseudomonas"
                                                                                                                                                                    db_xref="taxon:287"
                                                                                                                                                                                                                                                                                                                                        ocation/Qualifiers
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Pred. No. 2.
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                                                                                                                                                                                                                                                                            aeruginosa"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sims, E.E., Hastings, M.
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Best Local Similarity
Matches 64; Conserv
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   104
                                                                                                                                       164 CGGGCTTGTCGCCGTCTCACTGAGCTTGGCAGCCGGCTCCTTGGCAAGTCCGGCAGGTTT
                                                                                                                                                                                                                                                                                 224 cerrerrerregecrecesses relations are reconstructed and contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrerrege contracted as a cerrege contracted as a cerrege contracted as a cerrege contracted as a cerrege contracted as a cerrege contracted as a cerrege contracted as a cerrege contracted as a cerrege contracted as a cerrege contracted as a cerrege contracted as a cerrege contracted as a cerrege contracted as a cerrege contracted as a cerrege cont
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Song, S.I., Kim, J.K., Kim, Y.-K. and Nahm, B.H.
Large-scale Sequencing Analysis of Rice ESTs
Unpublished (2003)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Ehrhartodeae; Oryzeae; Oryza.

1 (bases 1 to 471)
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Tel: 82 31 330 6193
Fax: 82 31 321 6355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Genomics and Genetics Institute, GreenGene Biotech Inc., of Bioscience and Bioinformatics, MyongJi University
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
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                                                                       AACGITICGCAGCAATGCGATAGATCTGAAGACTCTAACCTTTGGTCT 218
                                                                                                                                                                                                          ATTTGTGGGCAAAATGGCGATGTGGATGCCAGCAGGAATCCTTGCCATTTTGACCGCATC 170
CACGGCCTTCAGAGAAGCCATTCTTCTGATGCTTCTCTGTTCT
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Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /db xref="taxon:4530"
/clone="TLEAF--08-E15"
/tissue_type="leaf"
/tissue_type="leaf"
/dev_stage="7 days after germination"
/lab_host="E.coli DH10B"
/lab_host="E.coli DH10B"
/clone_lib="Rice_leaf_plasmid_cDNA_library_II (7LEAF)"
/clone_lib="Rice_leaf_plasmid_cDNA_library_II (7LEAF)"
/note="Vector: pCR4-TOPO; Site_1: EcoRI; mRNA was cappe
with oligoribonucleotides and then used as templates fc
RT-PCR."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Oryza sativa"
/mol_type="mRNA"
/cultivar="Nackdong"
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0; Mismatches
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Pred. No. 13;
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                                                                                                                                                                                                                                                                                                                                                                                                                            83 ;
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(7LEAF) Oryza
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Maximum DB seq length: 2000000000
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Perfect score:
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ALIGNMENTS

LOCUS	c CNS005NG 995 bp DNA linear GSS 03-JUN-1999
	fly), genomic survey sequence.
ACCESSION	AL060428
VERSION	AL060428.1 GI:4943359
KEYWORDS	GSS.
SOURCE	Drosophila melanogaster (fruit fly)
ORGANISM	
-	Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
	Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
	Ephydroidea; Drosophilidae; Drosophila.
REFERENCE	1 (bases 1 to 995)
AUTHORS	Genoscope.
TITLE	Direct Submission
JOURNAL	Submitted (02-JUN-1999) Genoscope - Centre National de Sequencage :
	BP 191 91006 EVRY cedex - FRANCE (E-mail : segref@genoscope.cns.fr
-	- Web : www.genoscope.cns.fr)
COMMENT	Determination of this BAC-end sequence was carried out as part of a
	The BDGP is constructing a physical map of the Drosophila
	melanogaster genome using these BACs. For further information
	please see http://www.fruitfly.org The BDGP Drosophila
	melanogaster BAC library was prepared by Kazutoyo Osoegawa and
	Aaron Mammoser in Pieter de Jong's laboratory in the Department of

311

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RESULT 14
US-10-796-280-12378
US-10-796-280-12378
; Sequence 12378, Application US/10796280
; GENERAL INFORMATION:
; APPLICANT: CARGILL, Michele et al.
; APPLICANT: CARGILL, Michele et al.
; TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
; TITLE OF INVENTION: STENOSIS, METHODS OF DETECTION AND USES THEREOF
; FILE REFERENCE: CL001510
; FILE REFERENCE: CL001510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-767-701-27384/c
; Sequence 27384, Application US/10767701
; GENERAL INFORMATION:
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; FEATURE:
; NAME/KEY: misc_feature
; LOCATION: (1)...(234309)
; OTHER INFORMATION: n = A,T,C or G, or insertion/deletion polymorphism (see Tables 1-US-10-796-280-12378
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; OTHER INFORMATION: Clone ID: 6858297
US-10-767-701-27384
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CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 27384
LENGTH: 490
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CURRENT FILING DATE: 2004-03-10
NUMBER OF SEQ ID NOS: 68533
SOFTWARE: FRANCE OF WINDOWS Version 4.0
SEQ ID NO 12378
LENGTH: 234309
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Best Local Similarity 52.5%;
Matches 62; Conservative
                                                                                                                   Query Match
Best Local &
                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nuclecic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(53535)B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Kovalic, David K.
                                                                                                                                                                                                                                                         TYPE: DNA
ORGANISM: Sorghum bicolor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: DNA
                                                                             8.7%;
Local Similarity 51.2%;
nes 66; Conservation
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                                192 AGATCTGAAGACTCTAACCTTTGGTCTCATTGCCGTTGCGATTACAGTGGTGGCGCATCT 251
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282 AGGTGTTACCAGTGTAGCAGTTGGTGGTAGCTGCCAGAGGCAGCGGAGTGGAGCCAGCGCC 223
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                                                                                     Score 28.2; DB 6; Length 490; Pred. No. 5.8; 0; Mismatches 63; Indels
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                                                                                  252 TCTTGGCGGTCGACGCACCTTGTTGAGCGTTGGCGCTGGCACCATCGTTTTTGTTGGACT
GGGCAACCT
                           320
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Search completed: April 17, 2004, 20:13:00 Job time : 39.4407 secs

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RESULT 11

US-10-796-280-12417/c

(Sequence 12417, Application US/10796280)

GENERAL INFORMATION:

APPLICANT: CARGILL, Michele et al.

APPLICANT: CARGILL, Michele et al.

TITLE OF INVENTION: GENETIC FOLYMORPHISMS ASSOCIATED WITH

TITLE OF INVENTION: STENOSIS, METHODS OF DETECTION AND USES THEREOF

FILE REFERENCE: CL001510

CURRENT FILLING DATE: 2004-03-10

CURRENT FILLING DATE: 2004-03-10

NUMBER OF SEQ ID NOS: 68533

SOPTWARE: FRETSEQ for Windows Version 4.0

SEQ ID NO 12417

LENGTH: 20618

TYPE: DUA.
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; ORGANISM: Drosophila melanogaster
US-10-108-605A-248
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                                                                      ; ORGANISM: Homo sapiens
US-10-796-280-12417
   Query Match
Best Local S
Matches 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
APPLICANT: Broadus, Julie
APPLICANT: Stam, Lynn
APPLICANT: Stam, Lynn
APPLICANT: Bachmann, Jane
APPLICANT: Kamdar, Kim
APPLICANT: Kamdar, Kim
TITLE OF INVENTION: NUCLEIC ACID SEQUENCES FROM DROSOPHILA MELANOGASTER THAT ENCODE
TITLE OF INVENTION: PROTEINS ESSENTIAL FOR LARVAL VIABILITY AND USES THEREOF
FILE REFERENCE: 311338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQ ID NOS: 361
SOPTWARE: PATENTIN Ver. 2.1
SEQ ID NO 248
LENGTH: 8577
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION NUMBER: US/10/108,605A CURRENT FILING DATE: 2002-03-27 PRIOR APPLICATION NUMBER: US 09/761,142 PRIOR FILING DATE: 2001-01-16 PRIOR APPLICATION NUMBER: US 60/176,418 PRIOR FILING DATE: 2000-01-14
y Match 8.8%;
Local Similarity 51.6%;
hes 65; Conservative
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47; Conserv
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   Score 28.4; DI
Pred. No. 27;
O; Mismatches
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Pred. No. 18;
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                                   DB 6;
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     61;
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                                    Length 20618;
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       Indels
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RESULT 13
US-10-766-280-12452
; Sequence 12452, Application US/10796280
; GENERAL INFORMATION:
; APPLICANT: CARGILL, Michele et al.
; TITLE OF INVENTION: STENOSIS, METHODS
; TITLE OF INVENTION: STENOSIS, METHODS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   á
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; TYPE: DNA
; ORGANISM: Homo sapiens
US-10-796-280-12418
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US-10-796-280-12418
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                                                                                                                                                                                                                                                                                                        ; ORGANISM: Homo sapiens US-10-796-280-12452
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GENERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: STENGSIS, METHODS OF DETECTION AND USES THEREOF
FILE REFERENCE: CL001510
CURRENT APPLICATION NUMBER: US/10/796,280
CURRENT FILING DATE: 2004-03-10
NUMBER OF SEQ ID NOS: 68553
SOCTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 12418
IFECTUAL 46075
                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION NUMBER: US/10/796,280
CURRENT APPLICATION NUMBER: US/10/796,280
CURRENT FILING DATE: 2004-03-10
NUMBER OF SEQ ID NOS: 68533
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 12452
LENGTH: 69359
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Best Local
                                                                                                                                                          Matches
                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                            TYPE: DN
                                                                                                                                                          Local Similarity 50.
les 71; Conservative
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Local Similarity 51.6%;
es 65; Conservative
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                                                  118 GGCAAAATGGCGATGTGGATGCCAGCAGGAATCCTTGCCATTTTGACCGCATCAACGTTT 177
                                                                                                                                                                                                                                                                                                                                                                                        DNA
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    GGCAAAGTGGGGATTAGAAACTAGGCAGTTTGACTCCAGAGTCTGTGCCCCTGTCCACTT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Michele et al.
GENETIC POLYMORPHISMS ASSOCIATED WITH
STENOSIS, METHODS OF DETECTION AND USES
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Pred. No. 47;
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Pred. No. 39;
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                                                                                                                                                                                                                                 DB 6;
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ACAATTTGTGGGCAAAATGGCGATGTGGATGCCAGCAGGA 147

ACACGTTGAAATCCAAATGCCCAAGGTGATGGCRTTGGGA

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TITLE OF INVENTION: YEAST AND FUNG:
FILE REFERENCE: JAB-1667
CURRENT APPLICATION NUMBER: US/10/451,467A
CURRENT FILING DATE: 2003-06-19
PRIOR APPLICATION NUMBER: EP 00870318.3
PRIOR FILING DATE: 2000-12-22
PRIOR APPLICATION NUMBER: EP 01870002.1
PRIOR APPLICATION NUMBER: EP 01870003.9
PRIOR FILING DATE: 2001-01-04
PRIOR FILING DATE: 2001-01-09
NUMBER: OF SEQ ID NOS: 732
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                                                                                  SOFTWARE: Pat
SEQ ID NO 545
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Best Local
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APPLICANT: Wang, I-Ching
APPLICANT: Major, Michael
TITLE OF INVENTION: METHODS OF TREATING AGE-RELATED DEFECTS AND DISEASES
FILE REFERENCE: 02-1040-A
CHRENEW ADDITION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION NUMBER: 60/405582
PRIOR FILING DATE: 2002-08-28
PRIOR APPLICATION NUMBER: 60/426068
10-451-467A-545
                                                                                                                                                                                                                                                                                                                                                APPLICANT: EBERHARDT, INES
APPLICANT: LUYTEN, WALTER HERMAN MARIA LOUIS
APPLICANT: REEKMANS, RIEKA JOSEPHINA
TITLE OF INVENTION: BAX-RESPONSIVE GENES FOR DRUG TARGET IDENTIFICATION IN
TITLE OF INVENTION: YEAST AND FUNGI
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CURRENT FILING DATE: 2003-08-28
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                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: CONTRERAS, ROLAND HENRI APPLICANT: EBERHARDT, INES
    TYPE: DNA
ORGANISM: Candida albicans
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PCT-US04-02000-767/c
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LENGTH: 500
TYPE: DNA
CRGANISM: Escherichia coli
PCT-US04-02000-767
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GENERAL INFORMATION:
APPLICANT: KOVALIC, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Zhou, Yihua
APPLICANT: Zhou, Yihua
APPLICANT: Zhou, Yihua
APPLICANT: David K.
APPLICANT: Zhou, Yihua
APPLICANT: Zhou, Yihua
APPLICANT: Acid, Molecules and Other Molecules Associated With
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21 (53353)

CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 21673

LENGTH: 312
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Best Local Similarity
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GENERAL INFORMATION:
APPLICANT: Science Applications International Corporation
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                                                                                                                                                 SOFTWARE: PatentIn version 3.2 SEQ ID NO 767
                                                                                                                                                                                                                    CURRENT APPLICATION NUMBER: PCT/US04/02000 CURRENT FILING DATE: 2004-01-23 PRIOR APPLICATION NUMBER: US 60/441,745 PRIOR FILING DATE: 2003-01-23 PRIOR FILING DATE: 2003-01-23 PRIOR FILING DATE: 2003-01-23 PRIOR FILING DATE: 2003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR FILING DATE: 3003-01-23 PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR
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ORGANISM: Sorghum bicolor
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Pred. No. 9.
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Pred. No. 4;
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Query Match 8.8%; Best Local Similarity 50.7%; Matches 68; Conservative

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; OTHER INFORMATION: n =
US-10-767-471-10749
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CURRENT APPLICATION NUMBER: US/10/767,471
CURRENT FILING DATE: 2004-01-30
NUMBER OF SEQ ID NOS: 50231
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 10749
LENGTH: 35895
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PRIOR FILING DATE: 2003-02-28
PRIOR APPLICATION NUMBER: US 60/478,667
PRIOR FILING DATE: 2003-06-13
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APPLICANT: Bicchholz, Ursula
APPLICANT: Skiadopoulos, Mario H.
APPLICANT: Murphy, Brian R.
TITLE OF INVENTION: RECOMBINANT HUMAN METAPNEUMOVIRUS
FILE REFERENCE: 4239-67783
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQ ID NOS:
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NAME/KEY: misc_feature
(15895
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Homo sapiens
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                                                                 201 GACTCTAACCTTTGGTCTCATTGCCGTTGCGATTACAGTGGTGGCGCATCTTCTTGGCGG
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ilarity 49.4%;
Conservative
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52.8%;
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Pred. No. 8.
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US-10-767-701-5423/c
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; OTHER INFORMATION: Clone ID: SORBI-28MAY03-CLUS132149_1
US-10-767-701-5423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-767-471-10669/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(5335)B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT APPLICATION UNDER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 5423
LENGTH: 731
                                        Query Match
Best Local S
Matches 54
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APPLICANT: Kovalic,
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                                                                                                                                                                                                                                                        NUMBER OF SEQ ID NOS: 50231
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 10669
LENGTH: 158027
                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 10669, Appl GENERAL INFORMATION: APPLICANT: CARGILL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: RHEUMATOID ARTHRITIS, METHODS OF DET
                                                                                                                                                                                                                                                                                                                                  CURRENT FILING DATE: 2004-01-30
                                                                                                                                                                                                                                                                                                                                                                            FILE REFERENCE: CL001505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Sorghum bicolor
                                                                                                                              NAME/KEY: misc_feature LOCATION: (1)...(158027) OTHER INFORMATION: n = A,T,C or G, or insertion/deletion polymorphism (see Tables
                                                                                                                                                                                                  ORGANISM: Homo sapiens FEATURE:
                                                                                                                                                                                                                                          TYPE: DNA
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es 60; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              149 ГССТТӨССАТТТТӨАССӨСАТСААСӨТТТСӨСАӨСАТӨСӨАТАӨАТСТӨААӨАСТСТАА 208
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AGTCATTACTTTTGCGCTCCGGGCGGTTCCGTTCTTAATCCTTAAGCCCCCTACGTGAATC 107
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Maximum Match 100%
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score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.
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1: /cgn2_6/ptodata/1/pna/PCT_NEW_COMB.seq:*

2: /cgn2_6/ptodata/1/pna/US06_NEW_COMB.seq:*

3: /cgn2_6/ptodata/1/pna/US07_NEW_COMB.seq:*

4: /cgn2_6/ptodata/1/pna/US08_NEW_COMB.seq:*

5: /cgn2_6/ptodata/1/pna/US08_NEW_COMB.seq:*

6: /cgn2_6/ptodata/1/pna/US09_NEW_COMB.seq:*

7: /cgn2_6/ptodata/1/pna/US09_NEW_COMB.seq:*
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(c) 1993 - 2004 Compugen Ltd
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US-10-789-400-36

US-10-767-471-10749

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US-10-650-609-1

US-10-671-467A-545

US-10-767-701-21673

PCT-US04-02000-767
US-10-108-605A-248
US-10-796-280-12418
US-10-796-280-12458
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US-10-796-280-12378
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5694.647 Million cell updates/sec
                                                Sequence 716, Appl Sequence 10749, Appl Sequence 10669, A Sequence 1, Appli Sequence 1, Appli Sequence 21673, Appli Sequence 21673, Appli Sequence 21673, Appli Sequence 12417, A Sequence 12417, A Sequence 12418, A Sequence 25301, A Sequence 25301, A Sequence 25301, A Sequence 25301, A Sequence 2784, A Sequence 2784, A Sequence 2781, A Sequence 2781, A Sequence 2781, A Sequence 2781, A Sequence 2781, A Sequence 2781, A Sequence 2781, A Sequence 2781, A Sequence 2781, A Sequence 2781, A Sequence 2783, A Sequence 2783, A Sequence 1036, Ap Sequence 1036, Ap Sequence 1036, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2655, Ap Sequence 2
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PCT-US04-09323-40	US-10-417-884A-1659	US-60-545-213-4448	US-60-545	-60-545	US-60-545-213-175	US-10-765-790	US-10-100-683-5402	10-	US-10-767-701-12271	US-10-767-701-18755	US-10-796-307-8720	US-10-796-280-12200	US-10-796-280-12303	-10-767-701-29976	10-1	-10-767-471-27441	-10-767-471-27293	T-0-1
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ALIGNMENTS

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APPLICANT: LITTLE, RANDALL
APPLICANT: LITTLE, RANDALL
APPLICANT: VAN EERDEWEGH, PAUL
APPLICANT: UPOUS, JOSEE
APPLICANT: DIPUIS, JOSEE
APPLICANT: DIPUIS, JOSEE
APPLICANT: DEL MASTRO, RICHARD
APPLICANT: ALLEN, KRISTINA
APPLICANT: PANDIT, SUNIL
TITLE OF INVENTION: NUCLECTIDE AND AMINO ACID SEQUENCES RELATING TO
TITLE OF INVENTION: RESPIRATORY DISEASES AND OBESITY
FILLE REFERENCE: 2976-4044US1
CURRENT APPLICATION NUMBER: US/10/021,698A
CURRENT FILING DATE: 2001-10-22
PRIOR APPLICATION NUMBER: 60/211,749
PRIOR FILING DATE: 2000-06-14
NUMBER OF SEQ ID NOS: 6160
SOFTWARE: PATENTIN 2.1
SEQ ID NO 716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 1
US-10-021-698A-716
Sequence 716, Application:
                                                                                                                                                                                                              PEATURE: modified base LOCATION: (167286). (167385); LOCATION: (167286). (167385); OTHER INFORMATION: a, t, c o US-10-021-698A-716
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Best Local S
Matches 65
                                                                                                                                                                                                                                                                                                    NAME/KEY: modified base LOCATION: (88987)...(8908)
                                                                                                                                                                                                                                                                                                                                                     LENGTH: 173233
TYPE: DNA
ORGANISM: Homo sapiens
FEATURE:
84548
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65; Conserv
                                                                 AGAATOTAAGCOTTGACCAAATATGTGTTACTATTACTTTGTTGTTGTTGTTGTTCTGG 84547
GTAACTCCAACCCTCTGCTCGTTGGCCTTGTCACCTCAGTGCTGATTTTGCAGATGAA 84605
                              GICGACGCACCTTGTTGAGCGTTGGCGCTGGCACCATCGTTTTTGTTGGACTGGTGAA 317
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                                                                                                                                          Conservative
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ADDRESSBE: Woodcock Washburn Kurtz Mackiewicz & STREET: One fülberty Place 46th. Floor CITY: Philadelphia STATE: ACCOMPTE: Philadelphia STATE: Philadelphia STATE: Philadelphia STATE: Philadelphia STATE: Philadelphia STATE: Philadelphia COMPTE: Philadelphia STATE: Philadelphia COMPTE: Philadelphia COMPTE: Philadelphia STATE: Philadelphia COMPTE: Philadelphia COMPTE: Philadelphia STATE: Philadelphia COMPTE: Philadelphia COMPTE: Philadelphia COMPTE: Philadelphia COMPTE: Philadelphia COMPTE: Philadelphia COMPTE: Philadelphia COMPTE: Philadelphia COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia STATE COMPTE: Philadelphia Philadelphia STATE COMPTE: Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Philadelphia Ph
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                                                                                                                                                                                     US-08-404-531B-4
                                                                                                                                                                                                                                                            TELEFAX: 215-568-3439
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 5110 base pairs
TYPE: nucleic acid
STEANDENNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 4, Application US/08404531B Patent No. 5863724 GENERAL INFORMATION:
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NUMBER OF SEQUENCES: 4

CORRESPONDENCE ADDRESS:
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                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Beardell, Lori Y.
REGISTRATION NUMBER: 34,293
REFERENCE/DOCKET NUMBER: BYLE
TELECHMUNICATION INFORMATION:
TELEPHONE: 215-568-3100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/404,53:
FILING DATE: 15-MAR-1995
                                                                                                                                                                                                     MOLECULE TYPE:
HYPOTHETICAL: 1
ANTI-SENSE: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION:
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                                                                                                                                                                                                                                                TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: Woodcock Washburn Kurtz Mackiewicz & ADDRESSEE: No. 5863724ris
STREET: One Liberty Place 46th. Floor
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                                                          GGCAGCTTGGCGATGTCAATGCCATCGATGATGATACGCCCTTCAAACATATCCACCATT
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CGGAAAAAGGCGAGAGAAGAAGGAGGATTT 4412
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Thomas, Gilbert Cote, and Robert Gage!
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                                                                                                                                      9.2%;
58.4%;
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; Pred. No. 3;
0; Mismatches
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RESULT 14
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RESULT 15
US-08-476-900A-4/c
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Ver
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/404,531B
FILING DATE: 15-MAR-1995
CLASSIFICATION: 435
ATTORNEY/AGRAM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Patent No. 5863724
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 5, Application US/08404531B
Patent No. 5863724
                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Joseph Bryan, Lydia Aguilar Bryan, Daniel Nelson, APPLICANT: Thomas, Gilbert Cote, and Robert Gagel TITLE OF INVENTION: Sequence Encoding Mammalian Sulfonylurea
                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                     INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
NAME: Beardell, Lori Y.
REGISTRATION NUMBER: 34,293
REFERENCE/DOCKET NUMBER: BY.
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
ADDRESSEE: Woodcock Washburn Kurtz Mackiewicz &
ADDRESSEE: No. 5863724ris
                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
LENGTH: 5110 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                           ANTI-SENSE:
FEATURE:
                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE: DI
                                                                                                                                                                                                                                                                           NAME/KEY:
LOCATION:
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                                                                                                                                                                                                             Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEPHONE: 215-568-3439
                                                                                                                                                                                                                                                                                                                                                                         IOPOLOGY:
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                                                                 4440 CGGAAAAAGGCGAGAGAAAGGAGGATTT 4412
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Pred. No. 3
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APPLICANT: Joseph Bryan, Lydia Aguilar Bryan, Daniel Nelson
TITLE OF INVENTION: Sequence Encoding Mammalian Sulfonylurea Receptor
Patent No. 6031150
TITLE OF INVENTION: and Method of Detecting Persistent Hyperinsulinemic Hypoglycer
TITLE OF INVENTION: Infancy

Sequence 4, Application US/08476900A
Patent No. 6031150
GENERAL INFORMATION:
APPLICANT: Joseph Bryan, Lydia Ac

REFERENCE/DOCKET NUMBER: BY TELECOMMUNICATION INFORMATION: TELEPHONE: 215-568-3100

BYLR-0003

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; NAME/KEY:
; LOCATION:
US-08-404-531B-27
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US-08-476-900A-27/c
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/476,900A
FILING DATE: 07-UN-1995
CLASSIFICATION: 800
CLASSIFICATION: 800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Joseph Bryan, Lydia Aguilar Bryan, Daniel Nelson
TITLE OF INVENTION: Sequence Encoding Mammalian Sulfonylurea Receptor
Patent No. 6031150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 27, Application US/08476900A Patent No. 6031150 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
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                                            TELEPHONE: 215-568-310
TELEPAX: 215-568-3439
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
LENGTH: 4635 base pair:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                         ATTORNEY/AGENT INFORMATION:
NAME: Beardell, Lori Y.
REGISTON NUMBER: 34,293
REFERENCE/DOCKET NUMBER: BYI
TELECOMMUNICATION INFORMATION:
TELEPHONE: 215.568-3100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET: One Liberty Place 46th. Floor CITY: Philadelphia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE: Woodcock Washburn Kurtz Mackiewicz & ADDRESSEE: No. 6031150ris
                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY:
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Similarity 58.4%;
                           nucleic acid
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215-568-3439
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linear
           single
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Pred. No. 2.
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                                                                                                                                                                                COMPUTER: IBM PC compatible
COMPUTER: PatentIn Release #1.0, Version #1.25
SPTWARE: PatentIn Release #1.0, Version #1.25
SCURRENT APPLICATION DATA:
APPLICATION UNMER: US/08/488,546A
FILING DATE: 07-JUNE-1995
CLASSIFICATION UNMER: 08/404,531
FILING DATE: 15-MARCH-1995
CLASSIFICATION UNMER: 08/404,531
FILING DATE: 15-MARCH-1995
CLASSIFICATION: 800
ATTORNEY/AGENT INFORMATION:
NAME: Beardell, Lori Y.
REGISTRATION UNMER: 34.293
REFERENCE/DOCKET NUMBER: BYLR-0026
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
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Best Local Similarity
Matches 52; Conserv
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NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
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GENERAL INFORMATION:
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HYPOTHETICAL: NO
ANTI-SENSE: NO
                                                                                                                                                   TELEFAX: 215-568-3439 INFORMATION FOR SEQ ID NO:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Joseph Bryan, Lydia Aguilar Bryan, Daniel Nelson, Pamela APPLICANT: Thomas, Gilbert Cote, and Robert Gagel TITLE OF INVENTION: Sequence Encoding Mammalian Sulfonylurea Receptor
                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 4635 base pairs
TYPE: nucleic acid
STRANDENMESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
HYPOTHETICAL:
ANTI-SENSE:
                                  MOLECULE TYPE:
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STREET: One Liberty Place 46th. Floor
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37..4533
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IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
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Pred. No. 2.
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RAGMENT TYPE: N-terminal

NAME/KEY:

CDS 37..4533

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RESULT 8
US-08-809-254A-4/c
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US-08-232-463-14
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Patent No. 6660852
GENERAL INFORMATION:
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SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
LENGTH: 5829
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TITLE OF INVENTION: PROBE FOR DIAGNOSING INFECTIOUS DISEASES
FILE REFERENCE: 19036/33767
CURRENT APPLICATION NUMBER: US/08/809,254A
CURRENT FILLNG DATE: 1997-05-16
PRIOR APPLICATION NUMBER: PCT/JP95/02036
PRIOR FILING DATE: 1995-10-02
PRIOR FILING DATE: 1995-10-02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION NUMBER: JP 236348 PRIOR FILING DATE: 1994-09-30
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURE:
                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
                                                 APPLICATION NUMBER: EP 91 114 300.6 FILING DATE: 26-AUG-1991 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES: 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: SCHBIFLINGER, F. APPLICANT: FALKNER, F. G.
                                                                                                                                                                                                                                                                                                                                                          STREET: 1000
CITY: Alexandria
                                                                                                                                           PRIOR APPLICATION DATA:
                                                                                                                                                           FILING DATE:
CLASSIFICATION: 435
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NAME: BENT, Stephen A. REGISTRATION NUMBER: 2 REFERENCE/DOCKET NUMBER
                                                                                                       APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                        COUNTRY: USA
ZIF: 22313-0299
                                                                                                                                                                                                 APPLICATION NUMBER:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 E OF INVENTION:
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56; Conserv
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ilarity 57.1%;
Conservative
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 NUMBER:
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Pred. No. 1.
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US-08-404-531B-27/c
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US-08-232-463-14
           LIPE: Floppy disk

COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTINE Release #1.0, Ve
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/404,5315
FILING DATE: 15-MAR-1995
CLASSIFICATION: 415
NAME:
                                                                                                                                                                                                                                                                     Patent No. 5863724

NUMBER OF SEQUENCES: 49

CORRESPONDENCE ADDRESS:

ADDRESSEE: Woodcock Washburn Kurtz Mackiewicz

ADDRESSEE: No. 5863724ris

STREET: One Liberty Place 46th. Floor
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                                                                                                                                                                                                                                                                                                                                                                                                           Patent No. 5863724
GENERAL INFORMATION:
APPLICANT: Joseph
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 27, Application US/08404531B
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SEQUENCE CHARACTERISTICS
LENGTH: 7218 base pair
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                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: Sequence Encoding Mammalian Sulfonylurea Receptor
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                                                                                                                                                                                                                       COUNTRY:
                                                                                                                                                                                                                                                        CITY: Philadelphia
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REGISTRATION NUMBER:
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Thomas, Gilbert Cote, and Robert G
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34,293
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                                                                                                                       Version
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                                                                                                                                                                                                                                                                                                                                                                                                                  Daniel Nelson,
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US-09-252-991A-13832/c
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Best Local S
Matches 63
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PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
SEQ ID NO 13729
                                                    GENERAL INFORMATION:
APPLICANT: GATY L. Breton et al.
APPLICANT: GATY L. Breton et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO
TITLE OF INVENTION: BAUMANNII FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: GTC99-03PA
CURRENT APPLICATION MUBBER: US/09/328,352
CURRENT APPLICATION MUBBER: US/09/328,352
UNMBER OF SEQ ID NOS: 8252
SEQ ID NO 1339
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LENGTH: 678
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PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
PEQ ID NO 17827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILE REFERENCE: 107196.136
CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1999-02-18
CURRENT FILING UNIBER: US 60/074,788
PRIOR APPLICATION NUMBER: US 60/074,788
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ORGANISM: Pseudomonas aeruginosa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: DNA ORGANISM: Pseudomonas aeruginosa
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ITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO
ITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
ORGANISM: Acinetobacter baumannii
                                        LENGTH: 1404
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Pred. No. 0.023;
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RESULT 7
US-08-961-527-56
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                                                                                                                                                                                                                                                                                     NAME: Brookes, A. Anders
REGISTRATION NUMBER: 36,373
REFERENCE/DOCKET NUMBER: PB34
TELECOMMUNICATION INFORMATION:
TELEPHONE: (301) 309-8504
TELEPAX: (301) 309-8512
INFORMATION FOR SEQ ID NO: 56:
SEQUENCE CHARACTERISTICS:
LENGTH: 2387 base pairs
TYPE: nucleic acid
cypannenness: double
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APPLICANT: Charle
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PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM: MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDIUM TYPE: Diskette,
COMPUTER: HP Vectra 480
OPERATING SYSTEM: MSDOS
SOFTWARE: ASCII Text
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STATE: Maryland
                                                                                                                                                                                                                                                                           STRANDEDNESS:
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                                                                                                                                                                           9.7%;
Local Similarity 52.7%;
es 68; Conservative
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                                                           1022 GCAATTCAACGGTÄTTCTCCAAATGAGAAAATTCAAACAGTTAGTCCTTCTGCCTTAAAT 108:
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                                                                                         ACGTTTCGCAGCAATGCGATAGATCTGAAGACTCTAACCTTTGGTCTCATTGCCGTTGCG
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                               ATTACAGTG
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Pred. No. 0.32;
                                                                                                                                                                                                 Score 31.4; DB Pred. No. 0.51;
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APPLICANT: ESHM, HERMANN
APPLICANT: SAHM, HERMANN
APPLICANT: EGGELING, LOTHAR
APPLICANT: EGGELING, LOTHAR
APPLICANT: EGGELING, LOTHAR
APPLICANT: DETEFERLE, WALTER
ITITLE OF INVENTION: NUCLEOTIDE SEQUENCE CODING FOR THE EXPORT OF
TITLE OF INVENTION: BRANCHED CHAIN AMINO ACIDS, PROCESS FOR THE
TITLE OF INVENTION: 1SOLATION THEREOF AND USE THEREOF
FILE REFERENCE: 21123/265496/MAS
CURRENT APPLICATION NUMBER: US/09/471,803A
CURRENT FILING DATE: 1999-12-23
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR PATENTAL 1999-10-27
NUMBER OF SEQ ID NOS: 12
SOPTWARE: PATENTIN Ver. 2.1
SEQ ID NO 1
LENGTH: 1271
TYPE: DNA
ORGANISM: Corynebacterium glutamicum
FEATURE:
NAME YERV
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US-09-471-803A-1
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US-09-471-803A-1
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Best Local Similarity 100.
Matches 324; Conservative
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LOCATION: (101)..(853)
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                                                                                                                                                                                                                                                                                                                                                                                                                                              μ
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                                                                                                                                                                                                     AGCAATGCGATAGATCTGAAGACTCTAACCTTTGGTCTCATTGCCGTTGCGATTACAGTG
                                                                                                                                                                                                                                                                    AAAATGGCGATGTGGATGCCAGCAGGAATCCTTGCCATTTTGACCGCATCAACGTTTCGC
                                                                                                                                                                                                                                                                                                                            GCGCTCCGGGCGTTCCGTTCTTAATCCTTAAGCCCCCTACGTGAATCACAATTTGTGGGC
                                                                                                                                                                                                                                                                                                                                                                                                       ATGACAACTGATTTCTCCTGTATTCTCCTTGTTGTCGCAGTATGTGCAGTCATTACTTTT
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    TTTGTTGGACTGGTGAATCTTTTC 1176
                                    TTTGTTGGACTGGTGAATCTTTTC
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RESULT 3 US-09-471-803A-6

Sequence 13729, Application US/09252991A
Patent No. 6551795
GENERAL INFORMATION:
APPLICANT: Marc J. Rubenfield et al.
TITLE OF INVENTION: AUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS FILE REFERENCE: 107196.136
CURRENT FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1998-02-18
PRIOR APPLICATION NUMBER: US/09/074,788
PRIOR FILING DATE: 1998-02-18

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PSEUDOMONAS

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APPLICANT: KENNERKUSCHT, NICOLE
APPLICANT: SAHW, HERMANN
APPLICANT: EGGELING, LOTHAR
APPLICANT: EGGELING, LOTHAR
APPLICANT: EGGELING, LOTHAR
APPLICANT: EGGELING, WALTER
TITLE OF INVENTION: NUCLEOTIDE SEQUENCE CODING FOR THE EXPORT OF
TITLE OF INVENTION: BRANCHED CHAIN AMINO ACIDS, PROCESS FOR THE
TITLE OF INVENTION: 1801ATION THEREOF AND USE THEREOF
FILE REFERENCE: 21123/265496/MAS
CURRENT APPLICATION NUMBER: US/09/471,803A
CURRENT FILING DATE: 1999-12-23
PRIOR APPLICATION NUMBER: DE 199 51 708.8
PRIOR FILING DATE: 1999-10-27
NUMBER OF SEQ ID NOS: 12
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 6
LENGTH: 1271
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RESULT 4
US-09-252-991A-13729/c
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GENERAL INFORMATION:
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LOCATION: (853)..(1176)
OTHER INFORMATION: brnB
OTHER INFORMATION: ATCC13032
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LOCATION: (101)...(853)
OTHER INFORMATION: brnF
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Maximum DB
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     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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seq length: 2000000000
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Match Length
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100.0
10.6
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2 : /cgm2_6/ptodata/2/ina/6B_COMB.seq:*
3 : /cgm2_6/ptodata/2/ina/6A_COMB.seq:*
4 : /cgm2_6/ptodata/2/ina/6B_COMB.seq:*
5 : /cgm2_6/ptodata/2/ina/ETUS_COMB.seq:*
6 : /cgm2_6/ptodata/2/ina/backfiles1.seq:*
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US-09-471-803A-6
US-09-471-803A-6
US-09-252-91A-13729
US-09-252-91A-13832
US-09-252-91A-13832
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29.6 29.4 29.4 29.4 29.1 29.4 29.1 29.1 29.2 29.0 867 29.2 29.0 1397 29.2 29.0 1397 29.2 29.0 1397 29.2 29.0 28.4 8.8 455 28.4 8.8 7304 28.2 8.7 28.2 8.8 8.8 8.2 8.2 8.2 8.2 8.2 8.2 8.	29.6 9.1 4931 3 US-09-208-716-2 Sequence 29.4 9.1 12588 2 US-08-387-942C-1 Sequence 29.4 9.1 12588 2 US-08-387-942C-1 Sequence 29.2 9.0 867 4 US-09-216-393B-342 Sequence 29.2 9.0 867 4 US-09-216-393B-342 Sequence 29.2 9.0 1397 4 US-09-216-393B-345 Sequence 29.2 9.0 1397 4 US-09-216-393B-345 Sequence 29.2 9.0 1397 4 US-09-216-393B-345 Sequence 29.2 9.0 1397 4 US-09-216-393B-345 Sequence 29.2 9.0 9828 4 US-09-216-393B-345 Sequence 29.2 9.0 9828 4 US-09-216-393B-345 Sequence 28.4 8.8 7304 4 US-09-611-976-15639 Sequence 28.4 8.8 7304 4 US-09-611-976-15639 Sequence 28.4 8.8 7304 4 US-09-611-976-15639 Sequence 28.2 8.7 387 4 US-09-453-702B-174 Sequence 28.2 8.7 387 4 US-09-453-702B-174 Sequence 28.2 8.7 1230025 4 US-09-610-040-5 Sequence 28.2 8.7 1230025 4 US-09-610-040-5 Sequence 28.2 8.7 1230025 4 US-09-671-548C-7 Sequence 28.2 8.6 1758 4 US-09-205-258-173 Sequence 28.6 1758 4 US-09-205-258-173 Sequence 28.5 1758 4 US-09-205-258-173 Sequence 28.5 1758 4 US-09-205-258-173 Sequence 28.5 1758 4 US-09-205-258-173 Sequence 28.5 1758 4 US-09-205-258-173 Sequence 28.5 1758 4 US-09-205-258-173 Sequence 28.5 1758 4 US-09-205-258-173 Sequence 28.5 1758 4 US-09-205-258-173 Sequence 28.5 1758 4 US-09-205-258-173 Sequence 28.5 1758 4 US-09-205-258-173 Sequence 28.5 1758 4 US-09-205-258-173 Sequence 28.5 1758 4 US-09-205-258-173 Sequence 28.5 1758 4 US-09-205-258-173 Sequence 28.5 1758 4 US-09-205-258-173 Sequence 28.5 1758 4 US-09-205-258-173 Sequence 28.5 1758 4 US-09-205-258-173 Sequence 28.5 1758 1758 1758 1758 1758 1758 1758 175
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4931 4931 1258 867 867 4 1397 4 1397 4 9828 4 505 4 505 2 7304 4 505 2 7304 4 505 2 7304 4 505 2 7304 4 12 8 7304 4 12 7304 4 12 7304 4 12 7304 4 12 7304 4 12 7304 4 12 7304 4 12 7304 12 7304 13 74 13 74 13 74 13 74 13 74 13 74 13 74 14 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16	4931 3 US-09-720-720-720-720-720-720-720-720-720-720
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ALIGNMENTS

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CURRENT APPLICATION NUMBER: US/09/471,803A
CURRENT FILING DATE: 1999-12-23
PRIOR APPLICATION NUMBER: D19951708.8
PRIOR FILING DATE: 1999-10-27
NUMBER OF SEQ ID NOS: 12
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 4
LENGTH: 324
LENGTH: 324
CREANISM: Corynebacterium glutamicum FEATURE: Orynebacterium glutamicum FEATURE: NAME/KEY: CDS
LOCATION: (1). (324)
OTHER INFORMATION: brnE
OTHER INFORMATION: ATCC14752
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US-09-471-803A-4
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APPLICANT: KENNERKSECHT, NICOLE
APPLICANT: SAHM, HERMANN
APPLICANT: EGGELING, LOTHAR
APPLICANT: PFEFFERLE, MALTER
TITLE OF INVENTION: MEANCHED CHAIN AMINO ACIDS, PROCESS FOR T
TITLE OF INVENTION: BEANCHED CHAIN AMINO ACIDS, PROCESS FOR T
TITLE OF INVENTION: ISOLATION THEREOF AND USE THEREOF
FILE REFERENCE: 21123/265496/MAS
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Best Local S
Matches 324
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Patent No. 6613545
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present invention relates to oligonucleotide clones originating in barley (Hordeum vulgare) which contain single nucleotide polymorphisms (SNP). The oligonucleotides may be used for analysis of SNPs among barley varieties, identification of particular varieties and genotype-phenotype analysis, isolation of specific genes and varieties and genotype-phenotype transformation of barley varieties with them and production of new barley varieties. The present sequence represents an oligonucleotide clone DNA sequence featured in the specification. The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp. wipo.int/pub/published-pct-sequences. (Updated on 27-OCT-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 470 BP; 122 A; 131 C; 102 G; 106 T; 0 U; 9 Other;
                                                                                                                                                                                                                                                   181 AGCAATGCGATAGATCTGAAGACTCTAACCTTTGGTCTCATTGCCGATTACAGTG 240
264
                                               301 TTTGTTGGACT 311
                                                                                                 324 GGTCACCAGTTTGCCACCCGTCTGGGCAACGTGTTCACCATTGGCAAGGGCACCAAGCCT 265
                                                                                                                                                       241 GTGGCGCATCTTCTTGGCGGTCGACGCACCTTGTTGAGCGTTGGCGCTCGCACCATCGTT 300
                                                                                                                                                                                                         384 ATCAAGNACAGGGAGNAGCATAAGGGAACCTTTGAGNCCATCCACGTTGAGGATGCCCAG 325
TGGGTGAGCCT 254
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Search completed: April 19, 2004, 11:42:03 Job time: 153.886 secs

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RESULT 14
ACL20868/c
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Best Local S
Matches 67
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standardise OS field)
                                                                                                                                                                                                            20-DEC-2001; 2001JP-00387059.

20-DEC-2001; 2001JP-00387131.

20-DEC-2001; 2001JP-00403299.

20-DEC-2001; 2001JP-00403300.

27-SEP-2002; 2002JP-00327515.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACL20868 standard; DNA; 392
                                                       Single nucleotide polymorphism sites in barley varieties and DNA sequences containing them for analysis and identification of bar varieties and production of barley transformants with desired
                                                                                                                                                                                                                                                                                                                                                                                                                                            Barley;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA clone originating in barley containing SNP encoding sequence #10859.
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17-OCT-2003
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                                                                                                                                                                                                                                                                                                                                                                      WO2003057877-A1
                                                                                                                                                                                                                                                                                                                                                                                                   Hordeum vulgare; var.
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67; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                              single nucleotide polymorphism;
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(first en
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                                                                                                                                                                                   OKAYAMA.
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Pred. No. 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                               SNP; genotype-phenotype analysis;
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Disclosure;

QES

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XX; 284pp; Japanese

Disclosure;

SEQ

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284pp; Japanese

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RESULT 15
ACL20918/c
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Best Local
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standardise OS field)
                                                                                                                                                                                 20-DEC-2001;
20-DEC-2001;
20-DEC-2001;
20-DEC-2001;
                                                                                                                                                                                                                                                                                                                                               Barley; s
gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 392 BP; 100 A; 105 C; 85 G; 102 T;
                                                                                                                     Sato
                                           Single nucleotide polymorphism sites in barley varieties sequences containing them for analysis and identification varieties and production of barley transformants with des
                                                                                                                                                                                                                                                                                                                       Hordeum vulgare;
                                                                                                                                                                                                                                                                                                                                                                                DNA clone originating in barley containing SNP encoding sequence #10909.
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17-0CT-2003
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACL20918
                                   characteristics.
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67; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        standard; DNA; 470
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                                                                                                                       Takeda
                                                                                                                                                                    ; 2001JP-00387131.
; 2001JP-00403299.
; 2001JP-00403300.
; 2002JP-00327515.
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                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                       2001JP-00387059.
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                                                                                                                                                                                                                                                                                                                                                            nucleotide
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                                                                                                                       Kohara
                                                                                                                                                                                                                                                                                                                       (cul.Haruna Nijo)
                                                                                                                                                                                                                                                                                                                                                           polymorphism;
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No. 1.
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Best Local S
Matches 75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human; major histocompatibility complex class II transactivator; MHC class II transactivator; antisense modulation; immunosuppressive; antimicrobial; antidiabetic; antitheumatic; antiarthritic; cytostatic; nootropic; neuroprotective; immunostimulant; autoimmune disorder; MHC Class II transactivator inhibitor; infection; transplant rejection; diabetes; rheumatoid arthritis; cancer; Alzheimer's disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACF39600 standard; cDNA; 6672
   The present invention describes a compound (I) that is 8-50 nucleobases in length: (a) targets a nucleic acid molecule encoding major histocompatibility complex (MHC) class II transactivator, and specifically hybridises with the nucleic acid encoding the MHC class II transactivator, and inhibits the expression of MHC class II transactivator; or (b) specifically hybridises with at least an 8-nucleobase portion of an active site on a nucleic acid molecule encoding MHC class II transactivator. (I) has immunosuppressive, antimicrobial, antidiabetic, antirheumatic, antiarthritic, cytostatic, nootropic,
                                                                                                                                                                                                                                                                                                                                              New antisense oligonucleotides for modulating MHC class II transactivator gene expression, particularly useful for treating autoimmune disorders such as transplant rejection, Alzheimer's disease, or multiple sclerosis, or infection.
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                                                                                                                                                                                                                                                                                        Example 13; Page 93-99; 129pp; English.
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)B; ABR82108.
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/product= "MHC class
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Pred. No. 5.4;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 6672 BP; 1392 A; 1954 C; 1868 G; 1458 T; 0 U; 0 Other:
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20-DEC-2001; 2001JP-00387131.

20-DEC-2001; 2001JP-00403299.

20-DEC-2001; 2001JP-00403300.

27-SEP-2002; 2002JP-00327515.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Barley; single nucleotide polymorphism; SNP;
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17-OCT-2003
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                                                                                                 Single nuclectide polymorphism sites in barley varieties and sequences containing them for analysis and identification of varieties and production of barley transformants with desired
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58.6%;
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Disclosure;

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ABL68121/c
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABL68121 standard; DNA; 6672
                                                                                                                                                                                                                                                                                                                                                                                                                                                       cytostatic;
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                                                                                                                                                                                                                                                                                                                                                                                                                                               cancer; colon; breast; ovary; oesophagus; kidney; thyroid;
h; lung; prostate; pancreas; carcinoma; antitumour; cancerous;
atic; gene therapy; antineoplastic; Wilm's tumour; adenocarcin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
71; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCCATTTGACCGCATCAACGTTTCGCAGCAATGCGATAGATCTGAAGACTCTAACCTTT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGGCGTTTCGACCGTCAGATCGCAGTGGAGGCTCCGGATCTCGATGGCCGTCTCAAGATT 39966
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; Pred. No. 13;
0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      adenocarcinoma;
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40026
The present invention describes a method (M1) for screening for an anticone peoplestic agent. The method involves exposing cells to a chemical agent to be tested for anti-neoplastic activity, determining a change in comprises a sequence (S) selected from 8447 sequences (given in ABL61664 comprises a sequence (S) selected from 8447 sequences (given in ABL61664 comprises a sequence (S) selected from 8447 sequences (given in ABL61664 comprises in indicative of anti-neoplastic activity. (I) has cytostatic activity and can be used in gene therapy. M1 can be used for screening an activity and can be used in gene therapy. M1 can be used for screening an complexity agent, and can be used for producing a product which is the data collected with respect to the anti-neoplastic agent as a result complexities of the agent. M1 can be used in the treatment of cancer such as colon, breast, stomach, lung, thyroid, oesophageal, ovarian, kidney, prostate or pancreatic cancer, infiltrating lobular cancer, squamous cell carcer, infiltrating ductal cancer, infiltrating lobular cancer, squamous cell carcer, neguences, neuroendocrine carcinoma, papillary carcinoma and Wilm's
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-SEP-2000;
29-SEP-2000;
29-SEP-2000;
02-OCT-2000;
02-OCT-2000;
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25-SEP-2000;
25-SEP-2000;
25-SEP-2000;
                                                                                                                                                                                                                                                                                                   Screening agent to b in express
                                                                                                                                                                                                                                                                                                                                                                                    Young P
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                                                                                                                                                                                                                                                                          Claim 1;
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                                                                                                                                                                                                                                                                                                                                                                                                                             (AVAL-) AVALON PHARM.
                                                                                                                                                                                                                                                                                                  reening for anti-neoplastic agent involves exposing ent to be tested for anti-neoplastic activity, and expression of a gene of a signature gene set.
                                                                                                                                                                                                                                                                                                                                                                                    PE,
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                                                                                                                                                                                                                                                                                                                                                                                    Augustus M, Weaver Z;
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2000US-0236891P.
2000US-0237172P.
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2000US-0235720P.
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2000US-0237278P.
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2000US-0236111P.
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g.cells to a chemical determining a change

Sequence 6672 BP; 1392 A; 1954 ü 1868 <u>.</u> 1458 13 0 U; 0 Other

05-JUN-2000; 05-JUN-2000; 18-SEP-2000;

2000US-0209473P. 2000US-0209531P. 2000US-0233133P. 2001WO-US010838

30-MAY-2001; 13-DEC-2001 WO200194629-A2

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Matches 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               capable of detecting 1000 or more genes from Drosophila. The invention useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher ewkaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA sequences (ABL16176-ABL30511), expressed DNA sequences (ABL01840-ABL16175) and the encoded proteins (ABB57737-ABB72072). The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 3144 BP; 1056 A; 676 C; 680 G; 732 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                   21-APR-2000; 2000US-0199047P.
02-JUN-2000; 2000US-0208841P.
07-JUL-2000; 2000US-0216747P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SAPHO syndrome;
uveitis; endophi
                          Sequences AASSYSUS-AMSSISUS TO THE STEPPING POLYPEPTIDES. The Propionibacterium acnes immunogenic polypeptides. The associated DNA sequences are used in the treatment, associated by P. acnes.
                            Sequences AAS59506-AAS59804 represent DNA molecules encoding propionibacterium acroes immunogenic polypeptides. The proteins and associated DNA sequences are used in the treatment, prevention and diamnosis of medical conditions caused by P. acroes. The disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                              20-APR-2001; 2001WO-US012865.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Propionibacterium acnes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    dermatological;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SAPHO syndrome; synovitis; acne; pustulosis; hypertosis; osteomyelitis; uveitis; endophthalmitis; bone; joint; central nervous system; ELISA; inflammatory lesion; acne vulgaris; enzyme linked immunosorbent assay;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Propionibacterium acnes immunogenic protein encoding DNA
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                                                                                                                     Claim 1;
                                                                                                                                                        Propionibacterium acnes vaccinating against and treating acne vulgaris.
                                                                                                                                                                                                                                       WPI; 2001-616774/71.
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                                                                                                                                                                                                                                                                                                                                    (CORI-) CORIXA CORP.
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                                                                                                                                                                                                                                                                                              YAW,
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                                                                                                                     SEQ ID NO 10; 1069pp; English.
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e J, Zhang Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      osteopathic; neuroprotectant;
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                                                                                                                                                                            polypeptides and nucleic acids useful for diagnosing infections, especially useful
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, Jen S, Carter I
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Pred. No. 2
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and

New Propionibacterium acnes polypeptides and popolypeptide, useful for diagnosing, preventing or for stimulating an immune response specific

polynucleotides encoding the og or treating acne vulgaris,

Claim 1; SEQ ID NO 10; 1481pp; English

include their

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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        in the sample. The polypeptides may be used as antigens in the production of antibodies specific for P. acnes proteins. These antibodies can be used to downregulate expression and activity of P. acnes polypeptides and therefore treat P. acnes infections. The antibodies may also be used as diagnostic agents for determining P. acnes presence, for example, by enzyme linked immunosorbent assay (ELISA). This sequence encodes the polypeptides shown in AAU41113-42019 and AAU67473. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      particularly involved in the inflammatory lesions associated with acine vulgaris. A method for detecting the presence or absence of P. acnes in a patient comprises contacting a sample with a binding agent that binds to the proteins of the invention and determining the amount of bound protein the proteins.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SAPHO syndrome (synovitis, acne, pustulosis, hypertosis and osteomyelitis), uveitis and endophthalmitis. P. acnes is all infections of bone, joints and the central nervous system,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACF64444;
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                                                                                                                    Mitcham JL, Skeiky YAW, Pe
Zhang Y, Wang S, Jen S, I
Barth B, Vallieve-Douglass
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                                                                                                                                                                                                                                                                                                                                           Propionibacterium
                                                                                                                                                                                                                                                                                                                                                                                        Acne vulgaris; antiseborrhoeic; dermatological; antibacterial;
                                                                                                                                                                                                                                                                                                                                                                                                                       Propionibacterium acnes DNA contig sequence #10
                                                                                                                                                                                                                                                                                                                                                                                                                                                       17-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACF64444 standard; DNA; 66788 BP
                                                                                           WPI; 2003-381789/36.
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71; Conserv
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Lodes MJ,
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Pred. No. 13
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                                                                                                                                        Bhatia A,
Benson DR,
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Jones R, Carter
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coryneform bacterium. Coryneform bacteria are useful for producing amino acids, nucleic acids, vitamins, saccharides and organic acids, particularly L-lywine. The present sequence is a nucleic acid described in the exemplification of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from the European Patent Office

Sequence 349980 BP; 79703 A; 91547 C; 98381 G; 80349 T; 0 U; 0 Other;

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RESULT 7
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XX ADA71938;
AC ADA71938;
XX ADA71938;
XX DT 20-NOV-200
XX Rice gene,
XX Plant; bac
XX Plant; bac
XX Oryza sati
XX Oryza sati
XX Oryza sati
XX Oryza sati
XX CON WO20030008
XX 22-JUN-200
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Matches 324;
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                                        Identifying at least pathogenic infection bacterial, fungal or
                                                                                                                                        WPI; 2003-175290/17.
                                                                                                                                                                                                                                                                                            22-JUN-2001; 2001WO-IB001105
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                                             one gene involved in plant resistance or response
for conferring resistance or tolerance to a plant
viral infection by determining or detecting plant
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Pred. No. 2.1e-99;
Mismatches 0;
                                                                                                                                                                                   Glazebrook Whitham S,
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                                                                                                                                                                                                                                                                                                                                                    The present invention relates to a method (M1) for identifying genes involved in plant resistance or response to pathogenic infection. M1 comprises identifying a gene whose expression is significantly altered in the incompatible interaction of plant gene expression relative to expression of the gene in an uninfected plant, in a mutant plant that does not express a gene associated with response to pathogenic infection, or in a corresponding incompatible or compatible interaction. (M1) is useful for conferring resistance to resistance or tolerance to a plant to bacterial, fungal or viral infection. The present sequence was used to
                                                                                                                                                                                                                                                                                                              Sequence 2000 BP; 336 A; 265 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim
                                                           781
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                                                                                                                       AMTCAKCKYKMAMTKWWTTWACAWRATSWRWRAMAGMRWKRYKMKRAYWWRWWRCWKAGW
                                                                                                                                                      CTCCGGGCGGTTCCTTAATCCTTAAGCCCCTACGTGAATCACAATTTGTGGGCAAA
                                                                                                                                                                                    AYYAMRRRWTYKWSWRRMYWTMTKWAWTWMTCMCMAKWYMATGWATWMWWRYTMYTYCY
                                                           ARWMKSRYRWKWKKYATRYYWKMWAMTWWWSWRRWKSYRMWSGMGRMRWSAWRYCSRMKC
                                                                                         ATGGCGATGTGGATGCCAGCAGGAATCCTTGCCATTTTGACCGCATCAACGTTTCGCAGC
AKTKYASSARWTKRAKRSYRYRRRWYWKRKGWTYRYRYWRSCRMTRARMSKR
                             AATGCGATAGATCTGAAGACTCTAACCTTTGGTCTCATTGCCGTTGCGATTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ ID
                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                              invention.
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                                                                                                                                                                                                                                                              10.7%; Score 34.8;
12.9%; Pred. No. 0.
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).47;
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11-JUL-2000;
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2000US-00614150
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New isolated nucleic a genes from Drosophila WPI; 2001-656860/75

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Sequence Listing; nucleic

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                         This invention describes a novel isolated polynucleotide (I) containing CC at least one sequence that (i) is 70% identical with a sequence that CC encodes at least one of 251 amino acid (aa) (3) or 108 aa (5) cc or (5); (iii) encodes a polypeptide at least 70% identical with (3) cc or (5); (iii) is the complement of (i) or (ii), or (iv) contains at least CC or (5); (iii) is the complement of (i) or (ii), or (iv) contains at least CC consecutive bases from (i) (ii). The invention also describes (a) CC coryneform microorganisms, especially Corynebacterium, transformed with CC coryneform microorganisms, especially Corynebacterium, transformed with CC coryneform microorganisms, especially Corynebacterium, transformed with CC coryneform bacteria in which the CC branched-chain L-aa by fermentation of coryneform bacteria in which the CC branched-chain L-aa by fermentation of coryneform bacteria in which the CC branched-chain l-aa by fermentation of coryneform bacteria being CC used for transformation of transformation of coryneform bacteria being CC used for fermentative production of branched-chain amino acids, cc specifically leucine, isoleucine and valine, which are useful in medicine corynebacterium glutamicum afCC 13032 brnF and brnE proteins described in the method of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        L-amino acid production; brnF; brnE; branched-chain amino ac coryneform bacterium; leucine; isoleucine; valine; medicine; animal nutrition; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C. glutamicum DNA encoding
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         Kennerknecht N,
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FORSCHUNGSZENTRUM JUELICH GMBH
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Other

The present invention provides a number of nucleotide and protein sequences from the Coryneform bacterium Corynebacterium glutamicum. These are useful for identifying the mutation point of a gene derived from a mutant of coryneform bacterium, measuring expression amount and analysing the expression profile or expression pattern of a gene derived from Coryneform bacterium, and identifying a homologue of a gene derived from

Claim

7; SEQ ID NO 1; 246pp + Sequence Listing; English.

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Best Local
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07-APR-2000;
03-AUG-2000;
                                                                                                                                                            Nakagawa
Tateishi
                                                                                           Novel polynucleotides derived from Coryneform bacteria, for identifying mutation point of a gene, measuring expression of a gene, analyzing expression profile or pattern of a gene and identifying homologous gene
                                                                                                                                                                                                                                                                                                                                          organic
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ilarity 100.0%;
Conservative (
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2000JP-00159162.
2000JP-00280988.
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Senoh A, Ikeda M,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 324
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acterium; leucine;
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                                                                                                                                                                                                                     DNA encoding brnF and brnE.
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Pred. No. B.8e-101;
Mismatches 0;
                                                                                                                                                    brnE; branched-chain amino acid;
isoleucine; valine; medicine;
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P-PSDB; AAB86247, AJ
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FORSCHUNGSZENTRUM JUELICH GMBH
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GTGGCGCATCTTCTTCGCCGTCGACCCACCTTGTTGAGCGTTGGCGCCTGGCACCATCGTT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                genes from coryneform bacteria, useful for increasing ve production of branched-chain amino acids.
                                                                                                                                                                                                                                                                                                                                                                        Conservative
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Pred. No. 1.6e-100;
; Mismatches 0;
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Matches 324; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 324 BP; 60 A; 79 C; 80 G; 105 T; 0 U; 0 Other;
                                                                             16-DEC-1999;
07-APR-2000;
03-AUG-2000;
               Nakagawa
Tateishi
                                                                                                                                                                                                                                                                                                        26-SEP-2001
                                                                                                                                                                                                               Corynebacterium
                                                                                                                                                                                                                                          Coryneform bacterium; amino 
organic acid synthesis; ds.
                                                                                                                                                                                                                                                                             C glutamicum
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                                                       (KYOW ) KYOWA HAKKO KOGYO
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                                                                               99JP-00377484.
2000JP-00159162.
2000JP-00280988.
                                                                                                                                                                                                                                        synthesis;
              Mizoguchi H, Ando S, Hayashi M,
Senoh A, Ikeda M, Ozaki A;
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Matches 324;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Novel polynucleotides derived from Coryneform bacteria, for identifying mutation point of a gene, measuring expression of a gene, analyzing expression profile or pattern of a gene and identifying homologous gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2001-376931/40.
P-PSDB; AAG90036.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 8; SEQ ID NO 290; 246pp + Sequence Listing;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 324 BP; 60 A; 79 C; 80 G; 105 T; 0 U; 0 Other;
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Title:
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Maximum Match 100%
Listing first 45 summaries
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score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.
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Copyright (c) 1993 - 2004 Compugen Ltd
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AAH21111
     This invention describes a novel isolated polynucleotide (I) containing at least one sequence that (i) is 70% identical with a sequence that encodes at least one of 251 amino acid (aa) (3) or 108 aa (5) polypeptides; (ii) encodes a polypeptide at least 70% identical with (3) or (5); (iii) is the complement of (i) or (ii), or (iv) contains at least 15 consecutive bases from (i)-(iii). The invention also describes (a) protein derived from sequences of 753 bp (2) or 324 bp (4); (b) correctorm microorganisms, especially Corynebacterium, transformed with one or more (I), where these are replicative DNA; (c) production of
                                                                                                                             Claim 5; Page 16; 23pp; German.
                                                                                                                                                  New export genes from coryneform bacteria, useful for increasing fermentative production of branched-chain amino acids.
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ACL20924	ACL20907	ACL20947	ACL20906	ACL20912	ACL20920	ACL20954	ACL20950	ACL20929	ACL20861	ABX03452	ACL20939	ACA50939	ACL20863	AAH41227	AAT30053	ABS99007	AAX13212	AAH24065	ABS56454_07	AAV52189	ADA30052
Ac120924 DNA cione	7 DNA	DNA	DNA	2 DNA c		4	ODNA	DNA	DNA	Nega	0939 DNA	Pro	w	7 Pyr	Aat30053 S. pneumo	Abs99007 Enterococ	Aax13212 Enterococ		tion (8	epto	Ada30052 DNA encod

ALIGNMENTS

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C. glutamicum brnE
WPI; 200
P-PSDB;
                                                                                                                                                                                                                                                                                             L-amino acid production; brnF; coryneform bacterium; leucine; animal nutrition; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAH21111 standard; DNA; 324 BP
                                                                                                                                                                                                                              EP1096010-A1.
                                                                                                                                                                                                                                                           Corynebacterium glutamicum.
                                                                                                                                                                                                                                                                                                                                                                                          05-SEP-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                         AAH21111;
                                                Kennerknecht N,
                                                                                                                                 27-0CT-1999;
                                                                                                                                                                                               02-MAY-2001.
                                                                                                                                                            11-OCT-2000; 2000EP-00122057
                                                                               (DEGS ) DEGUSSA AG.
(KERJ ) FORSCHUNGSZENTRUM JUELICH GMBH.
 2001-391595/42.
DB; AAB86248.
                                                                                                                                 99DE-01051708
                                                Eggeling
                                                                                                                                                                                                                                                                                                                                                           DNA.
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                                                 Sahm H,
                                                                                                                                                                                                                                                                                                             brnE; branched-chain isoleucine; valine; v
                                                   Pfefferle W;
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Sg

gene

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GTTSKLISEINSASDLEKKSELPALKSELPNEGSTYDLITEGNDNLKGTDLDDTFNGT
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EVVQVUKLTANTNI STSAFDTI I VAGDETGSDTKLTI NKDQKI DLAATTILAASKKI TN
DLNEKKSGDNDS IN LVLNAKTADNNVTVUGNGADKQUVI ETGGI ESVNITSVAASUSTTAN
SI DGKFTDVKS I I INGDAGI TLKGFTVATDYKNVSMI DASALKAGI TFDASA I TI ANG
ATI KGGSGADS I TVKGGLANLTILGEGSDTVTLKKGGTSTYD I TINDFSKDDKI VLNGT
ATI KGGSGADS I TVKGGLANLTILGEGSDTVTLKKGGTSTYD I TINDFSKDDKI VLNGT
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MLDSPGAAKFEDDSLLAMINSWYNGGSAESKAI FEAKAAASDYFADATLGKDI SGLDE
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VQNIKVNGVGAKGASVAITADKIETININTTGSQSFVSADVASISVKGNANISIATGA
KTTIJASSEGGALDADISTASASVTSIKGGNGNDKITIKDVAVUVAIDGGAGNDELVI
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ASDAVVQAANATKIDINAAKDTVGLTLGGVAKLTDLTVNNKGAFALTGANATDLDSVK
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Search completed: April 19,
Job time : 1377.24 secs
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Best Local Similarity
Matches 118; Conserv
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                                                                                                                                                                                                                                                                                 CGCATCTTCTT
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FSEFNFFTNNIA.I."
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GTTTAKGDUDPNIENVGALTIGA ITSSTGNASVII SSATGNVTIGAVER TQGNUTINA
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Pred. No. 2.4;
0; Mismatches 133;
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DEFINITION ACCESSION VERSION KEYWORDS

SOURCE

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Campylobacter fetus strain 23D s
A7211269 AF027405 J05577 L15800
A7211269.1 GI:28974206
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AX120085 AX114121

AX120085.1 GI:14036800
                                                                                                                                                                                                                     Campylobacter fetus
Campylobacter fetus
Bacteria, Proteobacteria,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Novel polynucleotides
patent: EP 1108790-A 1 20-JUN-2001;
KYOWA HAKOO KOGYO CO., LTD. (JP)
Location/Qualifiers
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Corynebacterium glutamicum
Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Nakagawa, S., Mizoguchi, H., Ando, S.,
Yokoi, H., Tateishi, N., Senoh, A., Ik
2 (bases 1 to 65865)
Blaser, M.J. and Gotschlich, E.C.
Surface array protein of Campyl
                                                                                                                                          Bacteria, Proteobacteria, Epsilonproteobacteria, Campylobacteraceae, Campylobacter.

1 (bases 1 to 65865)
Blassr,M.J. and Gotschlich,E.C.
Surface array protein of Campylobacter fetus. Clo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Corynebacterineae; Corynebacteriaceae; Corynebacterium.
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/db_xref="taxon:1718"
/note="Seq 1 to long (3.309.400) split in 11,
0.000.001 0.349.980 349.980"
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mol_type="genomic DNA"
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      of Campylobacter fetus. Cloning
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Pred. No. 1.1e-88;
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                                                                                                                                                                                                                                                                                                                 ) sap gene locus, partial sequence.
0 S44580 S76860
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Ikeda,M. and Ozaki,A.
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5 (base
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J. Biol. (
91035477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Dworkin, J., Tummuru, M.K. and Blaser, M.J. A lipopolysaccharide-binding domain of the Cas-layer protein resides within the conserved of silent and divergent homologs J. Bacteriol. 177 (7), 1734-1741 (1995) 95204338
                                                                                                                                                                                                                                                                  Submitted (03-JAN-2003) Microbiology and Medicine, New York University School of Medicine, VAMC ROOM 6006W 423 E. 23rd Street, New York, NY 10016, USA
On or before Mar 15, 2003 this sequence version replaced gi:255285, gi:4403445, gi:144211, gi:289533, gi:913763.
                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (30-SEP-1997) Division of Infectious Diseases, University, A-3310 MCN, Nashville, TN 37232, USA 10 (bases 1 to 65865)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Direct Submission
Submitted (20-MAY-1993) Division of Infectious Diseases,
University School of Medicine, Nashville, TN 37232, USA
9 (bases 1 to 65865)
Thompson, S.A., Shedd, O.L., Ray, K.C., Beins, M.H., Jorgens
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Rearrangement of sapA homologs with conserved and in Campylobacter fetus
Proc. Natl. Acad. Sci. U.S.A. 90 (15), 7265-7269 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3 (bases 1 to 65865)
Tummuru,M.K. and Blaser,M.J.
Characterization of the Campylobacter fetus sapA promoter: evidence that the sapA promoter is deleted in spontaneous mutant strains J. Bacteriol. 174 (18), 5916-5922 (1992)
                                                                                                                                                                                                                                                                                                                                                                                   10 (bases 1 to 65865)
Tu, Z.-C., Wassenaar, T.M., Thompson, S.A. and Blaser, M.J.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Blaser, M.J.
Direct Submission
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Tu,Z.C., Wassenaar,T.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Type I secretion system J. Bacteriol. 180 (24),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Blaser, M.J.
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                                                                                                          'gene="mtfA"
                                                                                                                                              db_xref="taxon:196"
                                                   note="Cf0001"
                                                                    gene="mtfA"
                                                                                                                                                                                                organism="Campylobacter fetus"
|mol_type="genomic DNA"
|strain="23D"
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Shedd,O.L.,
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                                                                                                                                                                                                                                                                                                                                             /translation="MRGTTWGPKRVRWKRLYRISSEECSLKVANTEHNYDASSITILE
GLEAVRKREGMYIGSTGFRGLHHLIWEVVDNSVDEAWAGHATKVEVTLLEDGGVQVVD
DGRGIPVDMHPSGAPTVQVVMTQLHAGGKFDSDSYAKGHATKVEVTLLEDGGVQVVD
DGRGIPVDMHPSGAPTVQVVMTQLHAGGKFDSDSYAKGGHGVGISVVNALSTRVEA
DIKLHGKHMYQNERKSVPDELIEGGNARGTGTTRFWPDAEIFETTEFPFTISRRLQ
EMAPLNKGLTITLTDNRATDEELELEALAEQGETATELSLDEIDNETELVEETTDAPK
KFKKREKKIFHYPMGLEDYVHYLMRSKTNIBTIVSFEAKGDHEVEVAMQMNSSYK
KSHKTGANTINTREGGTHEEGFREALTISLMRIKYAREHKLLKEKEAHLTGDDCREGLSA
VISVRVGDPOFEGQTKTKLGNTEIKSFVQRMANEHIGHWLEANPAEAKVIINKAVGSA
VISVRVGDPOFEGQTKTKLGNTEIKSFVQRMANEHIGHWLEANPAEAKVIINKAVGSA
QARLAARKARDLVRRKSATDLGGLDGKLADCRSKD EKSELYIVOGDSAGGSAKSGRD
SMFQAILDLGKKLNVEKALDKYLKNAEVYQAITTALGTGIHDEFDLWLRKHKIUNM
ADADVDGQHATILLTLLFRFMPDLVABGHVYLAQPPLYKLKWQRGEPGFAYSDEERD
EQLNEGLAAGKKINKDGJQRYKGLGEWMASELWETTWDPTVRILRRVDITDAQRADE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /gene="Cgl0005"
4766. .5302
/gene="Cgl0005"
/codon start=1
/trans1 table=11
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5354. .7489
/gene="Cg10006"
/EC_number="5.99
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/proteain_id="BAB97397.1"
/db_xref="GI:21322768"
/translation="MHIRSLELEDYRSWPELKVDLEPGITVFIGRNGFGKTNIVEAIG
/translation="MHIRSLELEDYRSWPELKVDLEPGITVFIGRNGFGKTNIVEAIG
YLAHLSSHRVSSDAPLVRAHAENARVSAVAVNQGRELAAHLLIKPHAANQASLNRTKV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TIGRO1055:parE Gneg: DNA topoisomerase IV,
TIGRO1058:parE Gpos: DNA topoisomerase IV,
TIGRO1059:gyrB: DNA gyrase, B subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /EC number="5.99.1.3"
/note="PF00204:NNA topoisomerase II (N-terminal region)
/pF00986:DNA gyrase B subunit, carboxyl terminus
/pF01751:Toprim domain
/pF02518:Histidine kinase-, DNA gyrase B-, phytochrome-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /product="Hypothetical protein"
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/protein_id="BAB97398.1"
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OHTRVEMIKDKKLFITCDSTAWATNLRMMQRQILQVIAEKVGPNIITELRIFGPQAPS
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LDAGRREKLVGIAQEVEQVLITAAVHDDLPENLKKVLTAQHTVTVQDTGTGRISLLDV
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                                                                                                                                                                                                                                            /gene="
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Query Match
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Similarity 100.0%;
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TTTGTTGGACTGGTGAATCTTTTC
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complement (9471.
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RPEAEKYNLBAIFGWGAGS PFRPTFS BWGKKLGK
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Pred. No. 1.1e-88;
; Mismatches 0;
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                                                                                       Corynebacterium glutamicum ATCC 13032
Corynebacterium glutamicum ATCC 13032
Bacteria, Actinobacteria, Actinobacteridae;
Corynebacterineae; Corynebacteriaceae; Coryn
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Corynebacterium glutamicum ATCC
  Complete ge
                                           Nakagawa, S
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /translation="MKLDSIDRAIIAELSANARISNLALADKVHLTPGFCLRRVQRLE
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/note="Lrp"
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sywvfggltgvaiabelifeiglttiryffigkaak"
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                          genomic
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acid export protein"
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                                                                                                                                                                                                          GI:21322764
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Pred. No. 6.2e-89;
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                          Corynebacterium
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                                                                                            Corynebacterium
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                          glutamicum
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TITLE
JOURNAL
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Submitted (24-MAY-2002) Satoshi Nakagawa, Kyowa Hakk
Ltd., Tokyo Research Laboratories; 3-6-6, Asahi-mach
Tokyo 194-8533, Japan (E-mail:snakagawa@xanagen.com,
Tel:81-44-829-3031, Fax:81-44-813-1651)
This sequence is conducted by collaboration of Kyowa
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                                                                                                                                                                                                                                                                                                                                                                                          /gene="Cg10003"
2292. 3476
/gene="Cg10003"
/EC number="2.7.7.7'
/note="PF00712:DNA p
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/transT table=11
/product="ATPase involved i
/protein_id="BAB97394.1"
/db_xref="GI:21322765"
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/trans1 table=11
/product="DNA polymerase I
/protein_id="BAB97396.1"
/db_xref="GI:21322767"
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/gene="Cg10002"
complement(1594. .1920)
/gene="Cg10002"
                                                                                                                                                                                                                                                                                                    PF02767:DNA polymerase III beta subunit, central don
PF02768:DNA polymerase III beta subunit, C-terminal
TIGR00663:dnan: DNA polymerase III, beta subunit"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /gene="Cg10001"
/note="PF00308:Bacterial dnaA protein
TIGR00362:DnaA: chromosomal replication
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2292. .3476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /Codon start=1
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/rranslation="MIUNNEVYLWIDFKVRILSPVCADVSPAYPQFLGSCAQGGKFRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /gene="Cgl0001"
. .1575
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|strain="ATCC 13032"
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Asahi-machi, Machida,
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Query Match
Best Local Similarity
Matches 324; Conserv
                                                                                                                              source
                                                                                                                                                      Kennerukunehito,N., Sahm,H., Eggering,L. and Pfefferle,W.
Nucleotide sequence encoding the discharge of branched amino
method of isolating the same and utilization thereof
patent JP 2001169788-A 426-JUN-2001;

DEGUSSA HUELS AG,FORSCHUNGSZENTRUM JUELICH GMBH
OS COrynebacterium glutamicum ATCC13032
PN JP 2001159788-A/4
PD 26-JUN-2001
PP 24-OCT-2000 JP 200324315
PR 27-OCT-1999 DE 19951708.8
PI NICOLE KENNERUKUNEHITO,HERMANN SAHM,LOTHAR EGGERING,WALT
PFEFFERLE
PC C12N15/09,C07K14/34,C12N1/21,C12P13/06,C12P13/PC C12N15/09,C12R1:15),(C12N1/21,C12P13/06,C12R1)
PC C12N15/00,C12R1:15)
CC brnF
CC brnE
FH Key

Location/Qualifiers
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 100.0%; llarity 100.0%; Conservative 0;
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                                                                             /organism="unidentified"
/mol_type="genomic DNA"
/db_xref="taxon:32644"
                                                                                                                                              Location/Qualifiers
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100.0%; Pred. No. 5.8e-89;
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Corynebacterium glutamicum
Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
Corynebacterineae; Corynebacteriaceae; Corynebacterium.
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Corynebacterium glutamicum BrnE regulator (lrp) genes, complete
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Export of L-isoleucine from Corynebacterium glutamicum:
two-gene-encoded member of a new translocator family
J. Bacteriol. 184 (14), 3947-3956 (2002)
22077265
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Kennerknecht, N., Egg
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          complement (708.
/gene="brnF"
complement (708.
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                                                                                                                                                                                                                                                                                                                                           Kennerknecht, N., Eggeling, L., Sahm, H. and Pfefferle, W
Nucleotide sequences coding for branched-chain amino
proteins, method for isolating them and their use
Patent: EP 1096010-A 6 02-MAY-2001;
Degussa AG (DE); FORSCHUNGSZENTRUM JUELICH GMBH (DE)
Location/Qualifiers
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Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
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                                    GIGGCGCATCTTCTTGGCGGTCGACGCACCTTGTTGAGCGTTGGCGCTGGCACCATCGTT
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Conservative
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Pred. No. 5.8e-89;
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Kennerukunehito, N., Sahm, H., Eggering, L. and Pfefferle, W. Nucleotide sequence encoding the discharge of branched ami method of isolating the same and utilization thereof Patent: JP 2001169788-A 1 26-JUN-2001;

DEGUSSA HUELS AG, FORSCHUNGSZENTRUM JUELICH GMBH OS COTYNEBACTEVIUM GILLAMICUM ATCC14752

PN JP 2001169788-A/1

PD 26-JUN-2001

PF 24-OCT-2000 JP 200324315

PR 27-OCT-1999 DE 19951708.8

PI NICOLE KENNERUKUNEHITO, HERMANN SAHM, LOTHAR EGGERING, P
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27-OCT-1999 DE 19951708.8
NICOLE KENNERUKUNEHITO, HERMANN SAHM, LOTHAR EGGERING, WALTER
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/organism="unidentified"
/mol_type="genomic DNA"
/db_xref="taxon:32644"
                                                                                           Location/Qualifiers
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1 (Kennerknecht, N., Sahm, H., Eggeling, L. and I Nucleotide sequences coding for the export acids, process for the isolation thereof ar patent: US 6613545-A 1 02-SEP-2003;
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Kennerknecht,N., Sahm,H., Eggeling,L. and Pfefferle,W.
Nucleotide sequences coding for the export of branched chain
acids, process for the isolation thereof and use thereof
Patent: US 6613545-A 6 02-SEP-2003;
Location/Qualifiers
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Sequence 1 :
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Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
Bacteria; Actinobacteriaceae; Corynebacterium.
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Nucleotide sequences coding for branched-chain
proteins, method for isolating them and their
Patent: EP 1096010-A 1 02-WAY-2001,
Degussa AG (DE) ; FORSCHUNGSZENTRUM JUELICH GM
Location/Qualifiers
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                                                                                                                                                 ALVVIPGQALFAALLIFLGLLTIRYFFLGKAAK"
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Nucleotide sequence encoding the discharge of branched amino
method of isolating the same and utilization thereof
patent: JP 2001169788-A 3 26-7UN-2001;
DEGUSSA HUELS AG,FORSCHUNGSZENTRUM JUELICH GMBH
OS COTYNEBACTECTIUM GlUTANICUM ATCC14752
PN JP 2001169788-A/3
PD 26-JUN-2001
PP 24-OCT-2000 JP 2000324315
PF 24-OCT-2000 JP 2000324315
PF 24-OCT-1999 DE 19951708.8
PI NICOLE KENNERUKUNEHITO,HERMANN SAHM,LOTHAR EGGERING,WALT
PFEFFERLE
PC C12N15/09,C07K14/34,C12N1/21,C12P13/06,C12P13/06
C12N15/09,C12R1:15),C12N1/21,C12R1:15),(C12P13/06,C12P13/06)
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/mol_type="genomic DNA"
/db_xref="taxon:32644"
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the discharge of branched amino acid,
and utilization thereof.
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PC C12P19/
GO1N33/566,
PC G01N33/
PC C12N15/
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                                                        GIGGCGCATCTTCTTGGCGGTCGACGCACCTTGTTGAGCGTTGGCGCTGGCACCATCGTT
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/mol_type="genomic DNA"
/db_xref="taxon:32644"
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Corynebacterium glutamicum
Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
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Degussa AG (DE) ; FORSCHUNGSZENTRUM JUELICH GMBH (DE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Corynebacterium glutamicum
Corynebacterium glutamicum
Bacteria, Actinobacteria, Actinobacteridae, Actinomycetales,
Corynebacterineae, Corynebacteriaceae, Corynebacterium.
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Sequence 4 from Patent EP1096010.

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JOURNAL	TITLE	AUTHORS	REFERENCE		ORGANISM	SOURCE	KEYWORDS	VERSION	ACCESSION	DEFINITION	Locus	AR391955	RESULT 1
acids, process for the isolation thereof and use thereof Patent: US 6613545-A 4 02-8EP-2003;	Nucleotide sequences coding for the export of branched chain amino	Kennerknecht, N., Sahm, H., Eggeling, L. and Pfefferle, W.	1 (bases 1 to 324)	Unclassified.	Unknown.	Unknown.		AR391955.1 GI:40115726	AR391955	Sequence 4 from patent US 6613545.	AR391955 324 bp DNA linear PAT 18-DEC-2003		

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Q7VI98;
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SETRAIN-ATCC 51449 / 3B1;

MEDLINE=22709201; PubMed=12810954;

Suerbaum S., Josenhans C., Sterzenbach T., Drescher B., Brandt P.,

Bell M., Droege M., Fartmann B., Fischer H.-P., Ge Z., Hoerster A.,

Holland R., Klein K., Koenig J., Macko L., Mendz G.L., Nyakatura G.,

schauer D.B., Shen Z., Weber J., Frosch M., Fox J.G.;

"The complete genome sequence of the carcinogenic bacterium

Helicobacter hepaticus.";

Proc. Natl. Acad. Sci. U.S.A. 100:7901-7906 (2003).

EMBL; AR017146; AAP7307.1; -

Hypothetical protein; Complete proteome.

Hypothetical protein; Complete proteome.

SEQUENCE 231 AA; 25674 MW; 10CDA631C71EF9BD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Helicobacter hepaticus.
Bacteria; Proteobacteria; Epsilonproteobacteria; Campylobacterales;
Helicobacteraceae; Helicobacter.
NCBI TaxID-32025;
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(TrEMBLrel. 25, Last sequence update)
(TrEMBLrel. 25, Last annotation update)
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ID KQ93KH

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ID KQ93KH

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D1 O1-D1

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Q93KB4;
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Welch R.A., Burland V., Plunkett G., III, Redford P., Roesch P.,

Welch R.A., Burland V., Dunkett G., Hackett J., Stroud D.,

Rasko D., Buckles E.L., Liou S. R., Boutin A., Hackett J., Stroud D.,

Mayhew G.F., Rose D.J., Zhou S., Schwartz D.C., Perna N.T.,

Mobley H.L.T., Donnenberg M.S., Blattner F.R.;

"Extensive mosaic structure revealed by the complete genome sequence
of uropathogenic Escherichia coli.";

Proc. Natl. Acad. Sci. U.S.A. 99:17020-17024(2002).

EMBL; AS016765; AAN81687.1; -.

EMBL; AS016765; AAN81687.1; -.

EMBL; AS016765; AAN81687.1; -.
                           Submitted (JÜL-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; AJ410307; CAC44347.1; -.
GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:0005622; C:intracellular; IEA.
GO; GO:000562; C:intracellular; IEA.
GO; GO:000575; F:transcription factor activity; IEA.
GO; GO:0005355; F:regulation of transcription, DNA-dependent; IEA.
GO; GO:0006810; P:transport; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-DEC-2001 (TrEMBLrel. 19, 01-DEC-2001 (TrEMBLrel. 19, 01-UN-2003 (TrEMBLrel. 24, YgaZ protein (Fragment).
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Submitted
                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Erwinia chrysanthemi.
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GO; GO:0006810; P:transport; IEA.
InterPro; IPR004471; AzlC.
Pfam; PF03591; AzlC; 1.
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   InterPro; IPR004471; AzlC
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245 AA; 2
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5093 MW; 20AAF2D91E644DB3 CRC64;
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6 RQAFLHGAIAILPLSLAVAPWGLLAGSMAIEANLSAWQGQGLSAIVFAGAAQLVAIGMLK 65

GAAPLGAIALTTLLVNFRHVFYAFSFPLHVVKNPIA-RFYSVFALIDEAYAVTAARP-AG

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Pfam; PF03591; AzlC; 1.
PROSIE; PS00043; HTH_GNTR_FAMILY; 1.
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Marthia dos Santos V.A.P., Por E., Gill S.R., Pop M., Holmes M.,
Brinkac L., Beanan M., DeBoy R.T., Daugherty S., Kolonay J.,
Madupu R., Nelson W., White O., Peterson J., Khouri H., Hance I.,
Chris Lee P., Holtzapple E., Scanlan D., Tran K., Moazzez A.,
Utterback T., Rizzo M., Lee K., Kosack D., Moestl D., Wedler H.,
Lauber J., Stjepandic D., Hohelsel J., Straetz M., Haim S.,
Lauber J., Stjepandic D., Hohelsel J., Straetz M., Haim S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q88KA5;
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01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
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                                                                                                                                                                                                Complete proteome. SEQUENCE 230 AA;
                                                                                                                                                                                                                                                           InterPro; IPR004471; Az
Pfam; PF03591; AzlC; 1.
                                                                                                                                                                                                                                                                                                                                                                                         EMBL; AE016783; AAN67998.1; -. TIGR; PP2385; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Complete genome sequence and comparative analysis of the metabolically versatile Pseudomonas putida KT2440.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A. MEDLINE=22423060;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pseudomonas putida (strain KT2440).
Bacteria; Proteobacteria; Gammaproteobacteria; Pseudomonadales;
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erPro; IPR004471; AzlC.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     183 GLEFALCSLFVTLTLDSCRTKKQ-IPSLLLAGLSFTIALVVIPGQALFAALLIFLG 237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        119 GLTDEVFAAATÄRLARDNRRWŚEPWMLGVALSAWLSWVAGTVIGAVFRNGPLEGYPAVEA
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   29 RYSIAQGLKTSLAAGLGMYPIGIAFGLLVIQYGYSWWAAPLFSGLIFAGSTEMLVIALVV
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                                                                     59;
                                                                                                     Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  , Eisen J., Timmis K.N., Duesterhoeft A.,
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                                                                                                                                                                                                230 AA; 24752 MW; 32C878FCDC403A81 CRC64;
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                                                                     Conservative
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28.4%; Pred. No. 4
                                                                  43;
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                                                                                                 Score 194; DB 16; Length 230; Pred. No. 7.1e-08;
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                                                                  Mismatches 101;
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RESULT 10
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01-MAR-2003
01-MAR-2003
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Complete proteome.
232 AA;
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STRAIN-UA159 / ATCC 700610 / Serotype C;

MEDIINE-2225063; PubMed=12397186;

Ajdic D., McShan W.M., McLaughlin R.E., Savic G., Chang J.,

Carson M.B., Primeaux C., Tian R., Kenton S., Jia H., Lin S.,

Li S., Zhu H., Najar F., Lai H., White J., Roe BA., Ferretti

"Genome sequence of Streptococcus mutans UA159, a cariogenic of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; AE014886; AAN58144.1; -.
GO; GO:0016021; C:integral to membrane;
GO; GO:0006810; P:transport; IEA.
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InterPro; IPR000437; Prok_lipoprot_S.
Pfam; PF03591; AzlC; 1.
PROSITE; PS00013; PROKAR_LIPOPROTEIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bacteria; Firmicutes; Lactobacillales; Streptococcaceae;
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SMU.388.
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(TrEMBLrel. 23, Last sequence update)
(TrEMBLrel. 25, Last annotation update)
tegral membrane protein, possible branched-chain
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                           PRELIMINARY;
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28.7%; Pred. No. 2.2e-08;
Live 44; Mismatches 91
                           245
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Q8FEQ6
ID Q8FEQ
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01-MAR-2003 (TrEMBLrel. 2
01-JUN-2003 (TrEMBLrel. 2
Hypothetical protein yga7
YGAZ OR C3235.
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"Genome sequence of enterohaemorrhagic Escherichia coli O157:H7.";
Nature 409:529-533(2001).
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRAIN=0157:H7 / RIMD 0509952;
MEDLINE=21156231; PubMed=11258796;
Hayashi T., Makino K., Ohnishi M., Kurokawa K., Ishii K., Yokoya Han C.-G., Ohtsubo E., Nakayama K., Murata T., Tanaka M., Tobe T Iida T., Takami H., Honda T., Sasakawa C., Ogasawara N., Yasunag Kuhara S., Shiba T., Hattori M., Shinagawa H.;
"Complete genome sequence of enterohemorrhagic Escherichia coli "Complete genomic comparison with a laboratory strain K-12.";
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Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales;
Enterobacteriaceae; Escherichia.
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01-MAR-2002 (TrEMBLrel.
01-JUN-2003 (TrEMBLrel.
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PIR; H91071; H91071.

GO; GO:0016021; C:integral to membrane;

GO; GO:0006810; P:transport; IEA.

InterPro; IPR004471; AzlC.

Pfam; PF03591; AzlC; 1.
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Z3983 OR ECS3544.
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MEDLINE=21074935; PubMed=11206551;
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                                                                                                             Q8FEQ6;
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L; AE005497; AAG57791.1; -.
L; AP002562; BAB36967.1; -.
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26093 MW;
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Matches 64
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MEDLINE=22294977; PubMed=12381787;
Schell M.A., Karmirantzou M., Snel B., Vil
Pessi G., Zwahlen M.-C., Desiere F., Bork
Pridmore R.D., Arigoni F.;
"The genome sequence of Bifidobacterium lo
to the human gastrointestinal Frant"
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01-MAR-2003
01-JUN-2003
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Q1-MAR-2002 (TrEMBLrel. 20, C

Q1-MAR-2002 (TrEMBLrel. 24, L

Q1-JUN-2003 (TrEMBLrel. 24, L

Hypothetical transmembrane pr

RSC0513 OR RSQ4992.
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Q8G3T5;
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Proc. Natl. Acad. Sci. U.S.A. 99:14422-14427(2002).

EMBL; AE014801; AAN25456.1; -

GO; GO:0016021; C:integral to membrane; IEA.

GO; GO:0006810; P:transport; IEA.

InterPro; IPR004471; AzlC.

Pfam; PF03591; AzlC; 1.

Hypothetical protein; Complete proteome.

SEQUENCE 338 AA; 37538 MW; 805D6F54BA0C80A5 CRC
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Bifidobacteriaceae, Bifidobacterium.
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MEDLINE-21681879; PubMed=11823852;
Salanoubat M., Genin S., Artiguenave R., Gouzy J., Mangenot S.,
Arlat M., Billault A., Brottier P., Camus J.C., Cattolico L.,
Arlat M., Choisne N., Claudel-Renard C., Cunnac S., Demange N.,
Chandler M., Choisne N., Claudel-Renard C., Cunnac S., Demange N.,
Gaspin C., Lavie M., Moisan A., Robert C., Saurin W., Schiex T.,
Siguier P., Thebault P., Whalen M., Wincker P., Levy M.,
Weissenbach J., Boucher C.A.;
                                                                                                                                                                                                                                                       Ralstonia solanacearum (Pseudomonas solanacearum)
Bacteria; Proteobacteria; Betaproteobacteria; Bur
Burkholderiaceae; Ralstonia.
                                                                                                                                                                SEQUENCE FROM N.A. STRAIN=GMI1000;
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37; Mismatches
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C STRAIN=RIMD 2210633 / Serotype O3:K6;

C STRAIN=RIMD 2210633 / Serotype O3:K6;

X MEDILINE=22508454; PubMed=12620739;

X MEDILINE=22508454; PubMed=12620739;

X Makino K., Oshima K., Kurokawa K., Yokoyama K., Uda T., Kin A., Ida T., Kin A., Kubota Y., Kin A., Ida T., Casanga T., Honda T., Shinagawa H., Hattori M., Iida T.;

A Yasunaga T., Honda T., Shinagawa H., Hattori M., Iida T.;

"Genome sequence of Vibrio parahaemolyticus: a pathogenic mec distinct from that of V. Cholerae.";

T distinct from that of V. Cholerae.";

L Lancet 361:743-749(2003).

L Lancet 361:743-749(2003).

E EMBL, AP005085; BAC61873 l; - membrane; IEA.

GG; GO:0006810; P:ttansport; IEA.

R GG; GO:0006810; P:ttansport; IEA.

R GG; GO:0006810; P:ttansport; IEA.

R GG; GO:0006810; P:ttansport; IEA.

R FinterPro; IPR004471; AzIC.

R Fofam; PF03591; AzIC; 1.

W Complete proteome.

SEQUENCE 236 AA; 25483 MW; 2288BE9F04DB15CB CRC64;
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GO; GO:0016021; C:integral to men
GO; GO:0006810; P:transport; IEA.
InterPro; IPR004471; AzlC.
InterPro; IPR004471; AzlC.
Pfam; PF03591; AzlC; 1.
Hypothetical procein; Complete pi
SEQUENCE 242 AA; 25196 MW; F7
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VPA0530.
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Bacteria; Proteobacteria;
Vibrionaceae; Vibrio.
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                                              44 LGMYPIGIA---FGLLVIQYGYEWWAAPL----FSGLIFAGSTEMLVIALVVGAAPLGAI
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Pred. No. 4.7e-09;
8; Mismatches 95
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Pred. No. 1.3e
14; Mismatches
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C STRAIN=Goel / Go? / LATCC BAA-199 / DSM 3647 / OCM 88;

C MEDLINE-22120827; PubMed=12125824;

X MEDLINE-22120827; DubMed=12125824;

X MEDLINE-22120827; DubMed=12125824;

X Martinez-Arias R., Henne A., Wiezer A., Baeumer S., Jacobi C.,

X Martinez-Arias R., Henne A., Wiezer A., Baeumer S., Jacobi C.,

RA Brueggemann H., Lienard T., Christmann A., Boemecke M., Steckel S.,

RA Britz H.-J., Gottschalk G.;

RA Fritz H.-J., Gottschalk G.;

RT "The genome of Methanosarcina mazei: evidence for lateral gene

RT "The genome of Methanosarcina mazei: evidence for lateral gene

RT Tansfer between Bacteria and Archaea.";

J. Mol. Microbiol. Biotechnol. 4:453-461(2002).

DR Mol. Microbiol. Biotechnol. 4:453-461(2002).

DR GO; GO:0016021; C:integral to membrane; IEA.

DR GO; GO:0016810; P:transport; IEA.

DR GO; GO:0016810; P:transport; IEA.
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01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
01-UUN-2003 (TrEMBLrel. 24, Last annotation update)
Branched-chain amino acid transport protein.
AZIC OR MM3262.
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GO; GO:0006810; P:transport; I
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Pfam; PF03591; AzlC; 1.
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Ferry J.G., Ja
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Methanosarcinales; Methanosarcinaceae; Methanosarcina
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ing H., Macario A.J.L., Paulsen I.,
Swanson R.V., Zinder S.H., Lander E.,
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MEDLINE=21145866; PubMed=11248100;
May B.J., Zhang Q., Li L.L., Paustian M.L., Whittam "Complete genomic sequence Pasteurella multocida Proc. Natl. Acad. Sci. U.S.A. 98:3460-3465(2001).
EMBL; AB006078; AAK02506.1; ...
GO; GO:0006810; P:transport; IEA.
GO; GO:0006810; P:transport; IEA.
InterPro; IPR004471; AzlC.
Pfam; PF03591; AzlC: 1.
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Hypothetical protein; Complete
SEQUENCE 240 AA; 26864 MW;
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                                                                                                                                                                                       SGROIFYGISMLEKYGAYLGKK---RWYLISTLVDEAFSLNYMAKVPEGIERGWYFFFVS
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                                                                                                                                       IAPHSYWVPGGLTGVAIAELIPFEIKGLEFALCSLFVTLTLDS-CRTKKQIPSLLLAGLS 215
FTALLVVGKTYFLLPTLIGIWFALTLRRVKLSAKLAK
                                           FTIALVVIPGOALFAALLIFLGLLTIRYFFL-GKAAK
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Pred. No. 3.9e-15;
                                                                                                                                                                                                                                                                                                                                                                                                           Score 237; DB 16;
Pred. No. 2.7e-11;
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EMBL; AF005224; BAC19736.1; -.
GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:0016021; C:integral to membrane; IEA.
InterPro; IPR004471; AzlC.
Pfam; PP03591; AzlC; 1.
Hypothetical protein; Complete proteome.
SEQUENCE 238 AA; 25739 MW; 02BDDEDOBAB33A31 CRC64;
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STRAIN-YS-314 / AJ 12310 / DSM 44549 / JCM 11189;

STRAIN-YS-314 / AJ 12310 / DSM 44549 / JCM 11189;

Kawarabayasai Y., Yamazaki J., Hino Y., Kikuchi H., Nakamura Y.

Kawarabayasai Y., Yamazaki J., Itoh T., Yamagishi A., Nishio Ikeo K., Suguki M., Mashima J., Itoh T., Yamagishi A., Nishio Usuda Y., Sugimoto S.;
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Corynebacteria; Actinobacteridae; Actinomycetales;
Bacteria; Actinobacteria; Actinobacteridae; Corynebacterium.
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01-MAR-2003 (TREMBLIES). 23, Last sequence up
01-UNN-2003 (TREMBLIES). 24, Last annotation
Conserved hypothetical protein.
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                                                                                                                                                                                       GTRLLTLQIVCQSLWVFPGIIGAVAGQALPDGLKGMEFALTALFVVLAWEAFTNNKDWSL 186
                                                                                                                                                                                                                                                                                                VGPFSAL-VTGFMVNFRHIFYGLTFPRNAIRSKVGRAYSTYALTDEAYAIASARPPGEIS
                                                                                                                                                                                                                                                                                                                                                        AAPLGAIALTTLLVNERHVEYAFSEPLHVVKNPIAREYSVEALIDEAYAVTAARPAG-WS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                35.3%; Score 448.5; DB 42.3%; Pred. No. 3e-28; tive 42; Mismatches
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Best Local
SEQUENCE FROM N.A.

STRAIN=C2A / ATCC 35395 / DSM 2834;

MEDLINE=C18.9760; PubMed=11932238;

MEDLINE=C18.9760; PubMed=11932238;

Galagan J.B., Nusbaum C., Roy A., Endrizzi M.G., Macdonald P.,

FitzHugh W., Calvo S., Engels R., Smittov S., Atnoor D., Brown A.,

FitzHugh W., Calvo S., Engels R., Smittov S., Atnoor D., Brown A.,

Allen N., Maylor J., Stange-Thomann N., DeArellann K., Johnson R.,

Linton L., McEwan P., McKernan K., Talamas J., Tirrell A., Ye W.,

Zimmer A., Barber R.D., Cann I., Graham D.E., Grahame D.A.,

Hedderich R., Ingram-Smith C., Kuettner H.C., Krzycki J.A.,

Leigh J.A., Li W., Liu J., Mukhopadhyay B., Reeve J.N., Smith K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                            u1-uuN-2002 (TrEMBLrel. 21, Created)
01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation updat
Branched chain amino acid transport protein AzlC.
MA3437.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Complete genomic sequence of Corynebacterium Submitted (MAY-2002) to the EMBL/GenBank/DDB. EMBL; APO05283; BACCO0477-1; -
GO; GO:0016021; C:integral to membrane; IEA. GO; GO:0006810; P:transport; IEA. InterPro; IPR004471; AzIC.
Pfam; PF03591; AzIC; 1.
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01-OCT-2002 (TrEMBLrel. 22, Created)
01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
01-UN-2003 (TrEMBLrel. 24, Last annotation update)
Predicted branched-chain amino acid permease (azaleucine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Complete proteome.
SEQUENCE 237 AA; 25867 MW; 193EB1182E0CF923 CRC64;
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Bacteria; Actinobacteria; Actinobacteridae; Actino
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Methanosarcinales; Methanosarcinaceae; Methanosarcina
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STRAIN=ATCC 13032 / DSM 20300 / NCIB 10025;
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es 87; Conserv
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Pred. No. 1.2
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                          SPTREMBL 25:*

1: sp_archea:*

2: sp_bacteria:*

3: sp_fungi:*

4: sp_numan:*

5: sp_invertebrate

6: sp_manmal:*

7: sp_mhc:*

10: sp_bage:*

10: sp_bage:*

11: sp_virus:*

12: sp_virus:*

13: sp_virus:*

14: sp_unclassifi

15: sp_archeap:*

16: sp_bacteriap:

17: sp_archeap:*
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Gapop 10.0 , Gapext 0.5
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1269
1 MQKTQEIHSSLEVSPSKAAL......LLIFLGLLTIRYFFLGKAAK 251
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sp_unclassified:*
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sp_phage:*
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SUMMARIES

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161	161.5	163	163.5	166	167	167	168	169	174.5	174.5	175	175	176	176.5	176.5	177	177.5	181	181	181.5	181.5	182	184.5	184.5	185	186	192
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224	230	238	219	235	230	230	241	235	237	235	257	252	261	242	235	233	218	239	234	256	241	241	237	237	230	237	250
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CLC4_MOUSE
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CONFLICT
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SEQUENCE
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15-JUL-1998 (Rel. 36, Created)
15-JUL-1998 (Rel. 36, Last sequence up
15-MAR-2004 (Rel. 43, Last annotation
Chloride channel protein 4 (ClC-4).
CLCN4 OR CLCN4-2 OR CLC4.
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                                                                                         SEQUENCE FROM N.A.
STRAIN-C57BL/6J; TISSUE=Retina;
STRAIN-C57BL/6J; TISSUE=Retina;
MEDLIXE=95400329; PubMed=7670496;
Rugarli E.I., Adler D.A., Borsani G., Tsuchiya K., Franco
Rugarli E.I., Adler D.A., Borsani V., Ballabio A.;
Hauge X., Distecche C., Chapman V., Ballabio A.;
"Different chromosomal localization of the Clcn4 gene in N
"Different chromosomal localization of the Clcn4 gene in N
and C57BL/6J mice.";
                                                                                                                                                                                  NCBI_TaxID=10090;
                                                                                                                                                                                               Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                        Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                      CLC4_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local
transepithelial transport.
SUBCELLULAR LOCATION: Integral membrane protein.
SIMILARITY: Belongs to the chloride channel fami
SIMILARITY: Contains 2 CBS domains.
                                             . Genet. 10:466-471(1995).
FUNCTION: Voltage-gatted chloride channel. Chloride channels have several functions including the regulation of cell volume; membrane potential stabilization, signal transduction and
                                                                                                                                                                                                                                                                                                                                                            255 SSLAHPORKISMT-----YVHSAVLAGGVAVGTSCHLIPSPWLAMVLGLVAGLISI
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C -> L (IN REF. 7).
D -> G (IN REF. 4).
G -> C (IN REF. 4).
G -> C (IN REF. 4).
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Best Local
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SMART; SM00116; CBS;
Ionic channel; Ion tra
Voltage-gated channel;
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InterPro; IPR001807; C1-Channel_volt.
Pfam; PF00571; CBS; 2.
Pfam; PF00654; voltage_CLC; 1.
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MGD; MGI:104571; Cl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; Z49916; CAA90150.1; -.
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                                                                                                                  EAYAVTAARPAGWSAWRLISMQIAFHSYWVFGGLTGVAIAELIPFEIKGLEFALC-SLFV
                                                                                                                                          EVLSAAAAAGVSVAFGAPIGGV-----LFSLEEVSY--YFPLKTL-----WRSFFRALV
                                                                                                                                                                 EMLVIALVVG-----AAFLGAIALTTLLVNFRHVFYAFSFFLHVVKNPIARFYSVFALID
                                              RCNIAWCRRRKTTRLGRYPVLEVIAVTAVTAIVAYP
                                                                       TLTLDSCRTKK-----QIPSLLLAGLSFTIALVVIP
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747
April 16,
3 secs
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209
266
337
372
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            2004, 06:53:44
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Pred. No. 3;
25; Mismatches
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CBS 1.
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CBS domain; Repeat.
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SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
MEDLINB=91058522; PubMed=2123099;
MEDLINB=91058522; PubMed=2123099;
Avent N.D., Ridgwell K., Tanner M.J.A., Anstee D.J.;
Avent N.D., Ridgwell K., Tanner M.J.A., Anstee D.J.;
"CDNA cloning of a 30 kDa erythrocyte membrane protein associated with Rh (Rhesus) -blood-group-antigen expression.";
"inchem. J. 271:821-825(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=89134163; PubMed=3146980; MEDLINE=89134163; PubMed=3146980; W.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A., AND VARIANTS THR-153; GLU-232 AND VAL-237. KAShiwase K., Ishikawa Y., Uchikawa M.; "The serological profile and molecular basis of the RhE variants (RhEFM and RhEKH) in Japanese.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE OF 1-16.
MEDLINE=88294325; PubMed=3135863;
Bloy C., Blanchard D., Dahr W., B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          le van Kim C., Cherif-Zahar B., Raynal V., Mouro Cartron J.-P., Colin Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Kajii E., Umenishi F., Iwamoto S., Ikemoto
"Isolation of a new CDNA clone encoding an
with the Rh blood group system.";
Hum. Genet. 91:157-162(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                       "Determination of the N-terminal sequence of human polypeptide and demonstration that the Rh(D), (c), are carried by distinct polypeptide chains.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Protein-sequence studies on Rh-related polypeptides suggest the presence of at least two groups of proteins which associate in the human red-cell membrane.";
Blochem. J. 256:1043-1046(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Multiple Rh messenger RNA isoforms are
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A. (ISOFORMS RHIV;
                                                                                                                                                                                       VARIANTS BLOOD GROUP C AND E.

MEDLINE=94035121; PubMed=8220426;

Mouro I, Colin Y., Cherif-Zahar B., C

"Molecular genetic basis of the human

Nat. Genet. 5:62-65(1993)
                                                                                                                                                                                                                                                                                        "Organization of the gene (RHCE) encoding the human blood group RhCcBe antigens and characterization of the promoter region."; Genomics 19:68-74(1994).
                                                                                                                                                                                                                                                                                                                                                      SEQUENCE OF 1-10 FROM N.A.
MEDLINE=94245182; PubMed=8188244;
Cherif-Zahar B., le van Kim C., Rouillac C., Raynal V., Cartron J.-P.,
                                                                                                  FUNCTION: MAY BE PART OF AN OLIGOMERIC COMPLEX WHICH IS LIKELY TO HAVE A TRANSPORT OR CHANNEL FUNCTION IN THE ERYTHROCYTE MEMBRANE. SUBCELLULAR LOCATION: Integral membrane protein.
ALTERNATIVE PRODUCTS:
EVENT. ALTERNATIVE splicing; Named isoforms=4:
                                                          IsoId=P18577-1;
Name=RHIV;
        Name=RHVI;
IsoId=P18577-3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            80:1074-1078(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                          72:661-666(1988).
                                            IsoId=P18577-2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Japanese.";
to the EMBL/GenBank/DDBJ databases
        Sequence=VSP_005702, VSP_005705;
                                                                          Sequence=Displayed;
                                          Sequence=VSP_005703,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Beyreuther K., Salmon C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PHVI
                                                                                                                                                                                                            Cartron J.-P.,
n Rhesus blood
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tanner M.J.A., Anstee D.J.,
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                                          VSP_005704;
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(E) antigens
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 EMBL; M34015; AAA36567.1; -.
EMBL; X54534; CAA38401.1; -.
EMBL; X557967; AAB26080.1; -.
EMBL; X63096; CAA44809.1; -.
EMBL; X63096; CAA44810.1; -.
EMBL; X63098; CAA44812.1; -.
EMBL; X63098; CAA44812.1; -.
EMBL; AB018644; BAA33927.1; -.
EMBL; AB018645; BAA33928.1; -.
EMBL; AB018645; BAA33928.1; -.
EMBL; AB0456; BAA33928.1; -.
EMBL; A30405; AAD14061.1; -.
EMBL; A30405; A30405.
GENEW, HGNC:10008; RHCE.
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PRINTS; PR00342; RHESUSRHD.
Erythrocyte; Transmembrane;
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InterPro; IPR002229; RhesusRHD
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TISSUE SPECIFICITY: RESTRICTED TO TISSUES OR CELL LINES EXPERISUES SPECIFICITY: RESTRICTED TO TISSUES OR CELL LINES EXPERYSHROLD CHARACTERS.

POLYMORPHISM: RhCE and RhD are responsible for the RH blood system. The molecular basis of the E-Rh3/e-Rh5 blood group antigens is a single variation in position 225; Pro-225 corresponds to Rh3 and Ala-225 to Rh5. The molecular basis c-Rh2/c-Rh4 blood group antigens is a single variation in position 202; Ser-102 corresponds to Rh2 and Pro-102 to Rh4.

SIMILARITY: BELONGS TO THE RH FAMILY. STRONG, TO RHD.
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KYFDDQVFWKFPHLAVGF -> FAPKSQNMESTSC (in
                                 FTId=VAR_006913
                                                   /FTId=VAR_006912.
2 -> R (IN C(W)/RH8
                                                                                 /FTId=VAR 006911.
                                                                                                                              ısoform RHVI)
/FTId≖VSP_005
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FTId=VAR_006914
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SP_005702.
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splicing;

Cherif-Zahar Colin Y.;

ANTIGEN) ANTIGEN). BLOOD

MEDLINE=92360855;

SSUE=Bone marrow;

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RESULT 13
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01-OCT-1996 (Rel. 34, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
15-MAR-2004 (Rel. 43, Last annotation update)
1-mide channel protein 4 (ClC-4).
                                                                                         MEDLINE=94348496; PubMed=8069296;
van Slegtenhorst M.A., Bassi M.T., Borsani G., Wapenaar M.C.,
Ferrero G.B., de Conciliis L., Rugarli E.I., Grillo A., Franco B.,
Zoghbi H.Y., Ballabio A.;
Zoghbi H.Y., Ballabio A.;
"A gene from the Xp22.3 region shares homology with voltage-gated
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                                                                                                                                                                                                                                                                                                                                                                       "A gene from the I
chloride channels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota;
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Primates;
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RESULT 14
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Best Local S
Matches 40
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P18577; Q02163; Q02164; Q02165; Q16160; Q9UEC2; Q9UEC3;

01-NOV-1990 (Rel. 16, Created)

01-NOV-1990 (Rel. 16, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Blood group Rh(CE) polypeptide (Rhesus C/E antigens) (Rh30A) (RhIXB)

(Rh polypeptide 1) (RhFI).

RHCE OR RHC OR RHE.
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SMART; S
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MMM; 302910; -.

GO; GO:0005247; F:voltage-gated c:
GO; GO:0006810; P:transport; TAS.

InterPro; IPR000644; CBS domain.

InterPro; IPR001807; C1-channel_v
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EMBL; AB019432; BAA77327.1;
EMBL; AF170492; AAD50981.1;
PIR; I37242; I37242.
                                              Cherif-Zahar B., Bloy C., le van Kim C., Bla
Hermand P., Salmon C., Cartron J.-P., Colin
"Molecular cloning and protein structure of
                                                                                                                                TISSUE=Bone marrow;
MEDLINE=90349591; P
                                                                                                                                                                                                                                                                      Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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Pfam; PF00654; voltage_CLC; 1.
                                                                                                                                                                                             SEQUENCE FROM N.A., AND PARTIAL
                                                                                                                                                                                                                                            NCBI_TaxID=9606;
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SM00116; CBS; 2.
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Pred. No. 1.8;
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87:6243-6247(1990)
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U.S.A.

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SOUTH THE TREE TO A SOUTH

SMART;

TRANSMEM TRANSMEM

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Ionic channel;
Voltage-gated
TRANSMEM
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Q92959;
15-DEC-1998
15-DEC-1998
28-FEB-2003
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Pfam; PF00654; voltage_CLC; 1.
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InterPro; IPR001807; C1-channel_volt.
                                                                                                                                                                                         15-DEC-1998 (Rel. 37, Created)
15-DEC-1998 (Rel. 37, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
solute carrier family 21 member 2 (Prostaglandin
                                                      SEQUENCE FROM N.A.

MEDLINE=96379664; PubMed=8787677;

LU R., Kanai N., Bao Y., Schuster V.L.;

"Cloning, in vitro expression, and tissue prostaglandin transporter cDNA(hPGT).";

J. Clin. Invest. 98:1142-1149(1996).
                                                                                                                                               Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
MEDLINE=98289612; |
Lu R., Schuster V.|
"Molecular cloning
                                                                                                                                NCBI_TaxID=9606;
                                 SEQUENCE FROM N.A.
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SM00116; CBS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
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189
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                         PubMed=9618293;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        33;
  gene for the
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CBS 2.
H -> Y (IN REF. 2).
W; 5F17D45F397003CE C
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Pred. No. 1.1
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Mismatches
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   human
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                                                                                distribution
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  prostaglandin
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                                                                                                                                                                                            transporter)
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   transporter
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                                                          Query Match
Best Local S
Matches 58
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GO; GO:0005887; C:integral to plass GO; GO:0005824; C:membrane fraction GO; GO:0005624; C:membrane fraction GO; GO:0005319; F:lipid transporte GO; GO:0006869; F:lipid transport; InterPro; IPR004157; OATP Cterm. InterPro; IPR004156; OATP_Nterm. Pfam; PF03137; OATP_N; 1.
Pfam; PF03137; OATP_N; 1.
PROSITE; PS50850; WFS; 1.
                                                                                                                                                                                                                               Transmembrane;
TRANSMEM 71
TRANSMEM 101
TRANSMEM 172
TRANSMEM 172
TRANSMEM 210
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EMBL; AF056731;
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AF056724; AAC62004.1;
AF056724; AAC62004.1;
AF056725; AAC62004.1;
AF056726; AAC62004.1;
AF056727; AAC62004.1;
AF056728; AAC62004.1;
AF056728; AAC62004.1;
AF056728; AAC62004.1;
AF056728; AAC62004.1;
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AF056721;
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AF056719;
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                  178
                                       40 LAAGLGMYPIGIAFGLLVIQYGYEWWAAPLFSGLIFA---
                                                                                                                                                                                                                                                                                                                                                                                                                                      HGNC:10955;
                                                                        Similarity
                  LLAGIGTVPIQ-PFGISYVDDFSEPSNSPLYISILFAISVFGPAFGYLLGSIMLQIFVDY
                                                                                                         49:
643
                                                              Conservative
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A
                                                                                                                                                                                                                                                                                         Transport;
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AAC62004.1;
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70116 MW;
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                                                              Score 98.5; DB Pred. No. 1.4; 30; Mismatches
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Query Match Best Local S Matches 50

50;

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27

DOMAIN DOMAIN CONFLICT

SEQUENCE

TRANSMEM TRANSMEM TRANSMEM

TRANSMEM TRANSMEM TRANSMEM

밁

350 205 300 147 257

RESULT 12 S212_HUMAN

236 76 10

hPGT: gene organization, promoter activity, and chromosomal localization.";
Biochem. Biophys. Res. Commun. 246:805-812(1998).
Biochem. Biophys. Res. Commun. 246:805-812(1998).
In control of the community of the sease of newly synthesized prostaglandins from cells, the transporthelial transport prostaglandins, and the clearance of prostaglandins from circulation. Transports PGD2, as well as PGE1, PGE2 and FINGLIARITY: UCCATION: Integral membrane protein.
ITISSUE SPECIFICITY: Ubiquitous.
ITISSUE SPECIFICITY: Ubiquitous. the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch). This SWISS-PROT entry is copyright. It is produced through a between the Swiss Institute of Bioinformatics and the EMBL There are no restrictions of as its content is in a collaboration t of m the PGF2A.

C:integral to plasma membrane; TAS C:membrane fraction; TAS. F:lipid transporter activity; TAS. P:lipid transport; TAS. POTENTIAL.

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N-LINKED (GLCNAC. . .) (PO'
N-LINKED (GLCNAC. . .) (PO'
N-TYNKED (GLCNAC. . .) (PO'
M; 7FC434A63ED62C9E CRC64; BB 76; ۳. Length Indels (POTENTIAL)
(POTENTIAL) 643; 93; Gaps

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RESULT 10
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Genomics 58:281-292(1999).
                                                                     Ionic channel;
Voltage-gated
TRANSMEM 13
TRANSMEM 18
TRANSMEM 18
TRANSMEM 24
                                                                                                                                                                                                                                                                                                                                                                                                                                   the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for con entitles requires a license agreement (See http://www.isb-sib.ch/aror send an email to license@isb-sib.ch).
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  TRANSMEM TRANSMEM TRANSMEM
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16-OCT-2001 (Rel. 40, Last
10-OCT-2003 (Rel. 42, Last
Chloride channel protein 5
CLCN5 OR CLC5.
                                                                                                                                                                                           Pfam; PF00571; CBS; 2.
Pfam; PF00654; voltage_CLC; 1.
PRINTS; PR00762; CLCHANNEL.
SMART; SW00116; CBS; 2.
Ionic channel; Ion transport;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EN
                                                                                                                                                                                                                                                                                                                                                                  EMBL; AF134117; AAD28473.1; -. MGD; MGI:99486; Clcn5.
                                                                                                                                                                                                                                                                                                               InterPro; IPR000644; CBS_domain.
InterPro; IPR001807; C1-channel_volt
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tubular function.
SUBCELLULAR LOCATION: Integral membrane protein.
SIBSUB SPECIFICITY: Kidney specific.
SIMILARITY: Belongs to the Chloride channel family.
SIMILARITY: Contains 2 CBS domains.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FUNCTION: Voltage-gated chloride channel. Chloride channels several functions including the regulation of cell volume; membrane potential stabilization, signal transduction and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  transepithelial transport. May play tubular function.
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146
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426
     l channel;
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246
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428
                                                                                                                                                                                                                                                                      voltage_CLC; 1.
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; Transmembrane; CB
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                                                                                                                                                                         CBS
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RESULT 11
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01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Chloride channel protein 5 (ClC-5).
                                                                                                                                                                                                                                                       MEDLINE 96215316; PubMed=8626585;
Sakamoto H., Kawasaki M., Uchida S., Sasaki S., Marumo F.;
Sakamoto H., Kawasaki M., Uchida S., Sasaki S., Marumo F.;
Sakamoto H., Kawasaki M., Uchida S., Sasaki S., Marumo F.;
Sakamoto H., Kawasaki M., Uchida S., Sasaki S., Marumo F.;
Sakamoto H., Kawasaki M., Uchida S., Sasaki S., Marumo F.;
Biol. Chem. 271:10210-10216 (1965)
J. Biol. Chem. 271:10210-10216 (1965)
J. Biol. Chem. 271:1020-10216 (1965)
J. Biol. Chem. 271:1020-10216 (1965)
J. Biol. Chem. 271:1020-10216 (1965)
J. Biol. Chem. 271:1021-10216 (1965)
J. Biol. Chem. 271:10216 (1965)
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Steinmeyer K., Schwappach B., Bens M., "Cloning and functional expression of related to kidney disease", J. Biol. Chem. 270:31172-31177(1995).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=96125100; PubMed=8537381; Steinmeyer K., Schwappach B., Bens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rattus norvegicus (Rat).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=10116;
                                                                                                                                                                   SUBCELLULAR LOCATION: Integral membrane protein. TISSUB SPECIFICITY: Kidney specific. SIMILARITY: Belongs to the chloride channel family. SIMILARITY: Contains 2 CBS domains.
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514 P
541 P
614 C
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83100 MW;
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Rodentia;
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Pred. No. 1.1
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Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
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                                                                                                gh a collaboration EMBL outstation -
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                                                                            outstation -
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MEDINE-86121370; PubMed=8575/51;
Pisher S.E., van Bakel I., Lloyd S.E., Prinakker R.V., Craig I.W.;
"Cloning and characterization of CLCN5,"
"Cloning and characterization of Characterization of CLCN5,"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDINE=97402204; PubMed=9259268;
Lloyd S.E., Guenther W., Pearce S.H.S., Thomson A., Bianc Bosio M., Craig I.W., Fisher S.E., Scheinman S.J., Wrong Jentsch T.J., Thakker R.V.;
"Characterisation of renal chloride channel, CLCN5, mutat hypercalciuric nephrolithiasis (kidney stones) disorders. Hum. Mol. Genet. 6:1233-1239(1997)
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Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Nature
[5]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=96158876; PubMed=8559248;
Lloyd S.E., Pearce S.H.S., Fisher S.E., Steinmeyer K., Schwappach B., Schelnman S.J., Harding B., Bolino A., Devoto M., Goodyer P., Rigden S.P.A., Wrong O., Jentsch T.J., Craig I.W., Thakker R.V.;
"A common molecular basis for three inherited kidney stone diseases.", Nature 379:445-449(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Aortic endothelium, and Vascular smooth mEDLINE=99222497; PubMed=10198195; Lamb F.S., Clayton G.H., Liu B.-x., Smith R.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      channel gene implicated in nephrolithiasis).";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VARIANTS NPHL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               blood vessels.
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"Isolation and partial characterization of a chloride channel which is expressed in kidney and is a candidate for Dent's divided to the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control o
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VARIANTS NPHL ARG-200;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Expression of CLCN voltage-gated chloride channel genes in human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mol .
                                                                                                                                                                                                                                                 SUBCELIULAR LOCATION: Integral membrane protein.
TISSUE SPECIFICITY: Kidney. Moderately expressed in aortic
vascular smooth muscle and endothelial cells, and at a sligh
higher level in the coronary vascular smooth muscle.
DISEASE: Defects in CLCN5 are a cause of X-linked recessive
hypophosphatemic rickets (XLRH) [MIM:300008].
DISEASE: Defects in CLCN5 are the cause of idiopathic low
molecular weight proteinuria of japanese children (JILP)
                                                                                                            [MIM:300008].
DISEASE: Defects in CLCN5 are the cause of X-linked recessive nephrolithiasis type 2 (NPHL2) [MIM:300009]; also known as Dent disease. NPHL2 is a renal form of Fanconi syndrome, characterized by hypercalciuria, nephrocalcinosis, renal stones and progressive
DISEASE: Defects in CLCN5 are the cause of X-linked recessive nephrolithiasis type 1 (NPHL1) [MIM:310468]; also designated XRN NPHL1 is characterized by hypercalciuria, nephrocalcinosis, rena
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FUNCTION: Voltage-gated chloride channel. Chloride channels several functions including the regulation of cell volume; membrane potential stabilization, signal transduction and transepithelial transport. May play an important role in ren
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tubular function.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLCK2
                                                                                       failure
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Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GLU-506 AND PRO-520,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pearce
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X-linked hereditary
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          muscle;
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YRRYEIAQGLKTSLAAGLGMYPIGIAFGLLVIQYGYEWWAAPLFSGLIFAGSTEMLVIAL

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68;

Indels

75;

Gaps

10;

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Query Match
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Matches 50
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Ionic channel; Ion t
Voltage-gated channer
nisease mutation.
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EMBL; X81836; CAA57430.1; -
PIR; 137277; 137277.
Genew; HGNC:2023; CLCN5.
MIM; 300009; -..
MIM; 310468; -..
                                                                                                                                                                                                                                                                     Disease TRANSMEM
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GO; GO:0005254; F:chloride channel activity; TAS.
GO; GO:0007588; P:excretion; TAS.
GO; GO:0006810; P:transport; TAS.
InterPro; IPR001644; CBS_domain.
InterPro; IPR001807; C1-Channel_volt.
Pfam; PF00571; CBS; 2.
Pfam; PF00554; voltage_CLC; 1.
PRINTS; PR001662; CLCHANNEL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                       SEQUENCE
                                                                     VARIANT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  stones and renal insufficiency, but differs from Dent that the patients lack urinary acidification defects, osteomalacia.
SIMILARITY: Belongs to the chloride channel family.
SIMILARITY: Contains 2 CBS domains.
                                                                                                                                                                                                                                                                                                                                                                                                     SM00116; CBS;
          Similarity
                                       746
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                                                                                                                                                                                                                                                                                                                                                                                  channel;
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153
209
266
337
372
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         8.0%;
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                                       MW,
                                                   Currents).

/FTId=VAR 001621.

S -> P (in NPHL2).

/FTId=VAR 001622.

E -> D (in NPHL2; abolishes t)

E -> D (to NPHL2; abolishes t)
                                                                                                                  /FTId=VAR 001617.
S -> L (im XLRH).
/FTId=VAR 001618.
/FTId=VAR 001619.
/FTId=VAR 001619.
/FTId=VAR 001619.
G -> E (im NPHL1).
/FTId=VAR 001620.
         Score 101.5; D
Pred. No. 0.92;
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                                                  currents; total
/FTId=VAR_001623
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                                                                                                                                                                                                             FTId=VAR
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                                        EF913C5BA40C85D8 CRC64;
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RESULT 8
NU4C_PSINU
ID NU4C_P
AC Q8WHZ8
AC Q8WHZ8
DT 28-FEB
DT 28-FEB
DT 28-FEB
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LiterPro; It
Pfam; PF00146
PROSITE; PS0066
R PROSITE; PS00666
R PROSIME; PS00666
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TRANSMEM 29
TRANSMEM 27
NNSMEM 129 151
NNSMEM 254 276
NEM 305 327
M 348
372 P
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Best Local S
Matches 66
Q8WHX8;
28-FEB-2003
28-FEB-2003
28-FEB-2003
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Structure of a co-transcribed gene cluster, ndh1-frxB-ndh6-ndh4L, cloned from the filamentous cyanobacterium Plectonema boryanum."; plant Cell Physiol. 32:969-981(1991).
-!- FUNCTION: NDH-1 shuttles electrons from NAD(P)H, via FMN and i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN=IAM M-101;
Takahashi Y., Sho;
Matsubara H.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               + +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; D01014; BAA00814.1; -.
PIR; JQ2135; JQ2135.
InterPro; IPR001694; Resp_NADH_dh1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              plastoquinol.
SUBCELULAR LOCATION: Integral membrane protein (Potential).
SIMILARITY: Belongs to the complex I subunit I family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sulfur (Fe-S) centers, to quinones in the respiratory chain. The immediate electron acceptor for the enzyme in this species is believed to be plastoquinone. Couples the redox reaction to proton translocation (for every two electrons transferred, four hydrogen ions are translocated across the cytoplasmic membrane), and thus conserves the redox energy in a proton gradient (By similarity). CATALYTIC ACTIVITY: NAD(P)H + plastoquinone = NAD(P)(+) +
                                                                PSINU
                                                                                                                                                                         214
                                                                                                                                                                                                          224
                                                                                                                                                                                                                                         171
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PS00667; COMPLEX1 ND1 1; FALSE NEG. PS00668; COMPLEX1 ND1 2; 1.
                                                                                                                                                                          LSFTIALVVIPG------QALFAALLIFLGLLTIRYFFL
                                                                                                                                                                                                                                                                                                      RFYSVFALI------DEAYAVTAARPAGWSAWRLISMQIAFHSYWVFGGLTG
                                                                                                                                                                                                                                                                                                                                                                                                    DVVPAKA-----DK-----LLFTLGPAIVVIPVFLSY--LILPFGQNLQITDVGL
                                                                                                                                                                                                                                                                                                                                                                                                                                 EVSPSKAALEPDDKGYRRYEIAQGLKTSLAAGLGMYPIGIAFGLLVIQYGYEWWAAPLFS
                                                                                                                                            WEFPISLSVISGLIGVPESTPWLQLIFAT--IGIGMTLLKAYFL
                                                                                                                                                                                                                                                                                                                                      GI-----FLWIAL-SSVVPIGLIMSGYASNNKYSLLGGLRAAAQSISYEL-----PLA
                                                                                                                                                                                                                                                                                                                                                                    GLIFAGSTEMLVIALVVGAAPLGAIA-----LTTLLVNFRHVFYAFSFPLHVVKNPIA 124
                                                                                                                                                                                                         LAECERIPFDLPEASESLVAGYQTEYSGMKFALFYLGSYVNLTLSAL----LFAVLYLGG
                                                                                                                                                                                                                                                                      --LSVLAVVMSNSLSTVDIVNQQAGYGI-----LGWNIWR----QPVGFIIFWI----AA
(Rel. 41, Created)
(Rel. 41, Last seq
(Rel. 41, Last ann
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97 119
79 151
276
327
370
40239 MW;
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                                                                STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8.7%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           P; Quinone; Plastoquinone; Trans
POTENTIAL.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                39;
 sequence update) annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 110.5;
Pred. No. 0.0
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                                                                498
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                                                                Å
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RESULT
CLC5_HT
ID CI
AC PS
DT 01
DT 11
DT 15
DT 15

HUMAN

CLC5_HUMAN STANDARD; PI PS1795; 01-OCT-1996 (Rel. 34, Created) 01-OCT-1996 (Rel. 34, Last seque 15-MAR-2004 (Rel. 43, Last annot Chloride channel protein 5 (ClC-

sequence update)
annotation update)
(ClC-5).

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Best Local S
Matches 69
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HAMA; MF 00491; -; 1.
InterPro; IPR003918; NADHub oxred4.
InterPro; IPR001750; Oxidored_q1.
Iffam; PF00361; oxidored_q1; 1.
PRINTS; PR01437; NUOXDRDTASE4.
Oxidoreductase; NAD; NADP; Quinone; P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collab between the Swiss Institute of Bioinformatics and the EMBL outset the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentities requires a license agreement (See http://www.isb-sib.ch/an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Psilotum nudum.";
Submitted (JAN-2002) to the EMBL/GenBank/DDBJ databases.
-!- CATALYTIC ACTIVITY: NAD(P)H + plastoquinone = NAD(P)(+)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN=Kingyoku;
Wakasugi T., Nishikawa
"Complete nucleotide se
Psilotum nudum.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Viridiplantae; Strey Moniliformopses; Psilotophyta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAD(P)H-quinone oxidoreductase chain 4,
(NAD(P)H dehydrogenase, chain 4) (NADH-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Psilotum nudum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         plastoquinol.
                                                       346
                                                                                                                                           169
                                                                                                                                                                                                    127
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406
                           240
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                                                                                                                                                                                                                                                                                                                                                  l Similarity
69; Conserv
                                                                                                               VQIAYASLISFSLPNIKRRIAYSSVSHWGFVIIGISSITDIGTNGAILQMISHGLIGAAL
                                                                                                                                                                                                                                                             VYGAAPLG----HVVKNPIARF
                                                                                                                                                                                                                                                                                         LAMYSGQIGLFASQNILLFFFMWELELIPVYLLLSMWGGKKRLYSSTKFLLYTAGGSIFL
                                                       FFLAGISYDRTQTLYLDQLGGIAVFMPRLFTMFSFFSLASLALPGMSSFVAEFLIFLGIV
                                                                                                                                                                         HTWLPDTHGEAHYSTCMLL----AGILLKMGGYGLIR-INMELLPHAHFLFSPLLVTMGA
                                                                                                                                                                                                  -----YSVFALIDEAYAVTAARPAGWSAWRLISMQIAFHSYWVFG-----
                                                                                                                                                                                                                                LVGSLTMGLYGSNGTSFDLQILTNRSYPIAVETALY-----FSFLIAYAVKLPILPF
                                                                                                                                                                                                                                                                                                                     LGMY--PIGIAFGLLVIQYGYEW------WAAP--LFSGLIFAGSTEMLVIAL
                                                                                    --LAGLS----
                                                                                                                                           TGVALABLIPFEIKGLE--FALCSL----FVTLTLDSCR---TKKQIPSLL-----
TNPYYSL
                           TIRYFFL
                                                                                                                                                                                                                                                                                                                                                                                                          498 AA;
                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (Whisk
                           246
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 wa A., Yam
sequence
                                                                                                                                                                                                                                                                                                                                                             8.0%;
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nyta; Psilotales; Psilotaceae; Psilotum.
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ence of the c
                                                                                                                                                                                                                                                                                                                                                  40;
                                                                                                                                                                                                                                                                                                                                                Score 101.5;
Pred. No. 0.64
40; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         nain 4, chloroplast (EC 1.6.5.-)
(NADH-plastoquinone oxidoreduct
                                                                                    -----FTIALVVIPGQALFAA-LLIFLGLL
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STRAIN=K12 / MG1655;

STRAIN=97426617; PubMed=9278503;

Blattner F.R., Plunkett G. III, Bloch C.A., Perna N.T., Burland V.

Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G.F.,

Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J.,

Mau B., Shao Y.;
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       SEQUENCE FROM N.A.
STRAIN=YC-16 / DSM 4304 / ATCC 49558;
MEDLINE=98049343; PubMed=9389475;
Klenk H.-P., Clayton R.A., Tomb J.-F.
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Science 277:1453-1474(1997).
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Archaea; Euryarchaeota; Archaeog
Archaeoglobaceae; Archaeoglobus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "The complete genome sequence of the hyperthermophilic, reducing archaeon Archaeoglobus fulgidus.";
Nature 390:364-370(1997)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           or send an email to license@isb-sib.ch).
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-!- SIMILARITY: Belongs to the azlC family.
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    208
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RESULT 7
NUUC PE
ID NUUC P
AC QO272
DT 01-APR
DT 01-APR
DT 01-APR
DT 04-APR
DT 04-APR
DT 08-PB
DE MAD P
DE GN NAD P
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RN [1]
RP SEQUEN
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Q00242;
Q1-APR-1993
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01-APR-1993 (Rel. 25, Created)
01-APR-1993 (Rel. 25, Last sequence update)
08-FEB-2003 (Rel. 41, Last annotation update)
NAD(P)H-quinone oxidoreductase chain 1 (EC 1.
                                                                      dehydrogenase I, NDHA OR NDH1.
                                         Bacteria; Cyanobacteria;
                                                       Plectonema
                                                       boryanum.
  N.A.
                                                                                                                                                                      STANDARD;
                                           Oscillatoriales;
                                                                                                                                                                       PRT;
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                                            Plectonema
                                                                                                 1.6.5.-)
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Matches 61
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SEQUENCE FROM N.A.
MEDLINE=99120557;
                                                                                                                                                                                                                      YH38 HAEIN
P44302;
01-NOV-1995
01-NOV-1995
28-FEB-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pfam; PFO:
TIGREAMS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gibson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PIR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Genomic sequence comparison of two unrelated isolates of the human gastric pathogen Helicobacter pylori.";
Nature 397:176-180(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Smith
                                                                            naemophilus influenzae.
Bacteria; Proteobacteria; Gammaproteobacteria;
Pasteurellaceae; Haemophilus.
NCBI_TaxID=727;
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  SEQUENCE FROM N.A. STRAIN=Rd / KW20 / MEDLINE=95350630; 1
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R.A., Ling L.-S.L., Moir D.T., King B.L., Brown B.D.,
R.A., Noonan B., Guild B.C., deJonge B.L., Carmel G.
th D.R., Noonan B., Uria-Nickelsen M., Mills D.M., Iv
mino P.J., Caruso A., Uria-Nickelsen M., Zaylor D.E.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ure 397:176-180(1999).
SUBCELLULAR LOCATION: Integral membrane
SIMILARITY: Belongs to the azlC family.
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PF03591; AzlC; 1.
AMs; TIGR00346; azlC; 1.
hetical protein; Transport;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NFRHVFYAFSFPLHVVKNPIARF-YSVFALIDEAYAVT---AARPAGWSAWRLISMQIAF 159
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(Rel. 32, Last sequence update)
(Rel. 41, Last annotation updat
protein HII738.
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                                                                                                                                                                                                                                                                                                                   STANDARD;
  / ATCC 51907;
PubMed=7542800;
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62
150
176
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Pred. No. 2.8e
11; Mismatches
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POTENTIAL.
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RESULT 5

YGAZ_ECOLI P76630;

STANDARD;

PRT;

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ROCCORDENTAL

Escherichia coli. Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales; Enterobacteriaceae; Escherichia.

coli

15-JUL-1998 (R 15-JUL-1998 (R 16-OCT-2001 (R Hypothetical p YGAZ OR B2682.

8 (Rel. 36, Created) 8 (Rel. 36, Last sequ 1 (Rel. 40, Last anno

sequence update) annotation updat

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-i- SUBCELLULAR LOCATION: Integral membrane
-i- SIMILARITY: Belongs to the azlC family.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
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TRANSMEM
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(FAMs; TIGR00346; AzlC; 1);

(thetical protein; Trans;

ISMEM 21 41

ISMEM 44 64

ISMEM 66 86

ISMEM 139 159

ISMEM 165 185

ISMEM 165 185
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
57; Conser
                                                                                                                                                                                                                              SARQIFYGISMLEKYGIHIGKK---RWYLITTLVDESFSLNYMAKIPPHLDKGWYMFFVS
                                                                                                                                                                                                                                                                                                                                              GELFLGIAYGIYMKALGFGFLYPTLMALLIYAGSVEFIAAGALIAPFSPI-SVLLITLMI
                                                                                                                                                                                                                                                                                                                                                                                                  GWYPIGIAFGLLVIQYGYEWWAAPLFSGLIFAGSTEMLVI-ALVVGAAPLGAIALTTLLV
LVFLLIIGKEYFLIPTLIGIWLILIMR
                                                                                                                                                                                                                                                                                      NFRHVFYAFS----FPLHVVKNPIARFYSVFALIDEAYA---VTAARPAGWSAWRLISMQ
                                                       FTIALVVIPGQALFAALLIFLGLLTIR
                                                                                                            LYLHIYWVLGAAMGNLFGTVLPFNLKGVEFSMTALFLVIFAENWLKGKSHESSLLGLGIA
                                                                                                                                                                       IAFHSYWVFGGLTGVAIAELIPFEIKGLEFALCSLFVTLTLDS-CRTKKQIPSLLLAGLS
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185
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Pred. No. 4.3
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15-JUL-1998
15-JUL-1998
16-OCT-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=97426617; PubMed=9278503;
Blattner F.R., Plunkett G. III, Bloch C.A., Per
Riley M., Collado-Vides J., Glasner J.D., Rode
Gregor J., Davis N.W., Kirkpatrick H.A., Goeden
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -
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Science 277:1453-1474(1997)
-i- SUBCELLULAR LOCATION: Integral membrane protein (Pote
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.
STRAIN=K12 / MG1
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InterPro; IPR004471; AzlC.
Pfam; PF03591; AzlC; 1.
Hypothetical protein; Transport;
    STRAIN=VC-16 / DSM 4304 / ATCC 4: MEDLINE=98049343; PubMed=9389475 Klenk H.-P., Clayton R.A., Tomb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
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                                                                                                                                 Archaea; Euryarchaeota; Archaeoglobi; Archaeoglobales;
Archaeoglobaceae; Archaeoglobus.
                                                                                                                                                                            Archaeoglobus fulgidus.
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                                                                     FROM N.A.
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25 4;
64 8
110 13
141 1;
173 1
206 2
245 AA;
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(Rel. 36, Last sequence update)
(Rel. 40, Last annotation updat.
protein AF1755.
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Pred. No. 1.1e
41; Mismatches
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22ACE8AB8D7D651B C
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      J.-F.,
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           White
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les 95;
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, Rose I
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "The complete genome sequence of the hyperthermophilic, sulphate-reducing archaeon Archaeoglobus fulgidus.";
Nature 390:364-370(1997).
-!- SUBCELLULAR LOCATION: Integral membrane protein (Potential).
-!- SIMILARITY: Belongs to the aziC family.
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                                                                                                                                                                                                                                                                                                                                                                                           Pfam;
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                                                                                                                                                                                                                                                                                          SEQUENCE
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                                                         102
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 158
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                                                                                                                                                                                                      $P$KAALEPDDKGYRRYEIAQGLKT$LAAGLGMYPIGIAFGLLVIQYGYEWWAAPLF$GL
GLEFALCSLFVTLTLDSCRTKKQIPSLLLAGLSFTIALVVIPGQALFAALL
                                                       --SAFGITDEVFAVSV--NSAENERFILGLELGSYSAWVGGTALGVLAGSTLILDRDVYS
                                                                                   FYSVFALIDEAYAVTAARPAGWSAWRLISMQIAFHSYWVFGGLTGVAIAELIPFE---IK
                                                                                                                 IPAGASQFALITI-YSQSLLSAIFI-PIFLNLRHIIYSSIIAQKLKLRFP-HI---
                                                                                                                                             IFAGSTEMLVIALVVGAAPLGAIALTTLLVNFRHVFYA-----FSFPLHVVKNPIAR
                                                                                                                                                                            SLSKSAM---
                                                                                                                                                                                                                                                                                  1 protein;
14 34
37 5
123 14
123 14
155 17
189 20
219 AA;
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57
143
175
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; Transport; Transmembrane;
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Pred.
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POTENTIAL.
POTENTIAL.
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No. 0.
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(See http://www.isb-sib.ch/announce/
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es 96;
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RESULT 7

NUIC_PLEBO
ID NUIC_PLEBO STANDARD; PRT; 372 AA.

AC Q00242;
DT 01-APR-1993 (Rel. 25, Created)
DT 01-APR-1993 (Rel. 25, Last sequence update)
DT 28-PEB-2003 (Rel. 41, Last annotation update)
DE NAD(P)H-quinone oxidoreductase chain 1 (EC 1.6.5.-) (NAD(P)H
DE dehydrogenase I, chain 1) (NDH-1, chain 1).

GN NDHA OR NDH1.
OS Plectonema boryanum.
OC Bacteria; Cyanobacteria; Oscillatoriales; Plectonema.
OX NCBI_TaxID=1184;
RN [1]
RP SEQUENCE FROM N.A.
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01-NOV-1995
01-NOV-1995
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TRANSMEM
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TRANSMEM 1
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Nature 397:176-180(1999).
-I- SUBCELIULAR LOCATION: Integral membrane protein (Potential).
-I- SIMILARITY: Belongs to the azlC family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Alm R.A., Ling L.-S.L., Moir D.T., King B.L., Brown E.D., Smith D.R., Noonan B., Guild B.C., deJonge B.L., Carmel G Tummino P.J., Caruso A., Uria-Nickelsen M., Mills D.M., Ingibson R., Merberg D., Mills S.D., Jiang Q., Taylor D.E.,
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SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
MEDLINE=99120557; PubMed=9923682;
MEDLINE=9120557; PubMed=9123682;
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SEQUENCE FROM N.A. STRAIN=Rd / KW20 / MEDLINE=95350630; I
                                                         Bacteria; Proteobacteria; Gam
Pasteurellaceae; Haemophilus.
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42 6;
130 15
156 17
192 21
228 AA;
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(Rel. 32, Last sequence update)
(Rel. 41, Last annotation updat)
1 protein HI1738.
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SD6EBA86BE2E9744 CRC64;
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PubMed=7542800

ROCCOGERRAN

Escherichia coli.
Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales;

Escherichia

NCBI_TaxID=562, Enterobacteriaceae; 15-JUL-1998 (Re 15-JUL-1998 (Re 16-OCT-2001 (Re Hypothetical pi YGAZ OR B2682.

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Matches 57
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Science 269:496-512(1995).
-!- SUBCELLULAR LOCATION: Integral membrane
-!- SIMILARITY: Belongs to the azlC family.
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                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro; IPR004471; AzlC.

Pfam; PF03591; AzlC; 1.

TIGREAMS; TIGR00346; azlC; 1.

TYOCHELICAL PROTEIN; Transmembrane; Complete proteome.

Hypothetical protein; Transport; Transmembrane; Complete proteome.

PTRANSMEM 4 64 POTENTIAL.

TRANSMEM 46 POTENTIAL.

TRANSMEM 19 159 POTENTIAL.

TRANSMEM 19 219 POTENTIAL.

TRANSMEM 19 219 POTENTIAL.

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                                                                                                              FTIALVVIPGQALFAALLIFLGLLTIR 242
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27.5%;
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Minimum DB Maximum DB

seq length: 0
seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100% Listing first 45 su SwissProt_42:*

summaries

Total number

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hits satisfying chosen parameters:

141681 seqs, 52070155 residues

Database

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Scoring table:

BLOSUM62

Gapop 10.0 , Gapext 0

Title:

Perfect score:

US-10-608-504-3 1269

MQKTQEIHSSLEVSPSKAAL......LLIFLGLLTIRYFFLGKAAK 251

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protein -

protein search, using sw model

GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd.

April 16, 2004, 06:51:16 ; Search time 13.9833 Seconds (without alignments) 934.659 Million cell updates/sec

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RP SEQUENCE .....

RC STRAIN=168;

RX MEDLINE=98044033; PubMed=9384377;

RX MEDLINE=98044033; PubMed=9384377;

RA Kunst F. Ogasawara N., Moszer I., Albertini A.M., Alloni G.,

RA Azevedo V., Bertero M.G., Bessieres P., Bolotin A., Borchert S.,

RA Borriss R., Bourseier L., Brans A., Braun M., Brignell S.C., Bron S.,

RA Brouillet S., Bruschi C.V., Caldwell B., Capuano V., Carter N.M.,

RA Brouillet S., Devine K.M., Dusterhoft A., Ehrlich S.D., Emmerson P.T.,

RA Choi S.K., Codani J.J., Connerton I.F., Cummings N.J., Daniel R.A.,

RA Denizot F., Devine K.M., Dusterhoft A., Ehrlich S.D., Emmerson P.T.,

RA Fritz C., Fujita M., Fujita Y., Fuma S., Galizzi A., Galleron N.,

RA Ghim S.Y., Glaser P., Goffeau A., Golightly E.J., Grandi G.,

RA Guiseppi G., Guy B.J., Haga K., Haiech J., Harwood C.R., Henaut A.,

RA Hilbert H., Holsappel S., Hosono S., Hullo M.F., Itaya M., Jones L.,

RA Kurita K., Lapidus A., Kasahara Y., Klaerr-Blanchard M., Klein C.,

RA Kurita K., Lapidus A., Lardinois S., Hullo M.F., Kumano M.,

RA Kurita K., Lepidus A., Lardinois S., Lauber J., Lazarevic V.,

RA Medina N., Mellado R.P., Mizuno M., Moestl D., Nakai S., Noback M.,

RA Moone D., O'Reilly M., Ogawa K., Ogdwara A., Oddega B., Park S.H.,

RA Presecan E., Pujic P., Purnelle B., Rapoport G., Rey M., Reynolds S.,

RA Rieger M., Rivolta C., Rocha E., Roche B., Rose M., Sadale Y.,

RA Sato T., Scanlan E., Schleich S., Schroeter R., Scoffone F.,

Schroeter R., Schin B.S., Soldo B.,
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AZLC_BACSU
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15-JUL-1998
15-JUL-1998
10-OCT-2003
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MEDLINE=97431495; Paubked=9287000;
MEDLINE=97431495; Paubked=9287000;
Belitsky B.R., Gustafsson M.C.U., Sonenshein A.L., von Wachenfeldt C.;
Belitsky B.R., Gustafsson M.C.U., Sonenshein A.L., von Wachenfeldt C.;
"An lrp-like gene of Bacillus subtilis involved in branched-chain amino acid transport.";
amino acid transport.";
J. Bacteriol. 179:5448-5457(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=97453479; PubMed=9308178;
Sorokin A., Bolotin A., Purnelle B., Hilbert H.,
Sorokin A., Bolotin A., Purnelle B., Hilbert H.,
Duesterhoeft A., Ehrlich S.D.;
"Sequence of the Bacillus subtilis genome region
the lev operon reveals two new extracytoplasmic f
polymerase sigma factors SigV and SigZ.";
Microbiology 143:2939-2943(1997).
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Bacillus subtilis.
Bacteria; Firmicutes;
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EMBL; U93876; AAB80901.1; -.
EMBL; Z99117; CAB14612.1; -.
PIR; G69592; G69592.
SubtiList; BG11915; aZ1C.
InterPro; IPR004471; AZ1C.
Pfam; PF03591; AZ1C; 1.
TIGRPAMS; TIGR0346; aZ1C; 1.
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Takeuchi M., Tamakoshi A., Tanaka T., Terpstra P., Tognoni A.,
Tosato V., Uchiyama S., Vandenbol M., Vannier F., Vassarotti A.,
Viari A., Wambutt R., Wedler E., Wedler H., Weitzenegger T.,
Winters P., Wipat A., Yamamoto H., Yamane K., Yasumoto K., Yata K.,
Yoshida K., Yoshikawa H.F., Zumstein E., Yoshikawa H., Danchin A.;
"The complete genome sequence of the Gram-positive bacterium Bacillus subtilis.";
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15-JUL-1998 (
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                                                                                                                           Helicobacter pylori (Campylobacter
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                                                                             icobacteraceae; Helicobacter.
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protein HP1331.
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Epsilonproteobacteria;
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Pred. No. 4.7e-12;
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Tomb J.-F., White O., Kerlavage A.R., Clayton R.A., Sutton G.G., Fleischmann R.D., Ketchum K.A., Klenk H.-P., Gill S., Dougherty B.P. Fleischmann R.D., Ketchum K.A., Klenk H.-P., Gill S., Dougherty B.P. Nelson K., Quackenbush J., Zhou L., Kirkness E.F., Peterson S., Loftus B., Richardson D., Dodson R., Khalak H.G., Glodek A., Loftus B., FitzGerald L.M., Lee N., Adams M.D., Hickey E.K., McKenney K., FitzGerald L.M., Lee N., Adams M.D., Hickey E.K., McKenney K., Godayne J.D., Utterback T.R., Peterson J.D., Kelley J.M. Cotton M.D., Weidman J.M., Fujii C., Bowman C., Watthey L., Wallin Hayes W.S., Borodovsky M., Karp P.D., Smith H.O., Fraser C.M.,
                                                                              YD31 HELPJ
Q9ZJQ3;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nature 388:539-547(1997).
-!- SUBCELLULAR LOCATION: Integral membrane
-!- SIMILARITY: Belongs to the azlC family.
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                                                      Hypothetical JHP1251.
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                                       Helicobacter
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PF03591, AzlC; 1.
AMs; TIGR00346; azlC; 1.
Antinal protein; Transport; Transmembrane; Complete proteome.
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                                       pylori J99 (Campylobacter pylori J99).
                                                                  protein JHP1251.
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Pred. No. 1.1e-11;
6; Mismatches 92
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on update)
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Dougherty B.A.,
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Bacteria; Proteobacteria; Epsilo Helicobacteraceae; Helicobacter NCBI_TaxID=85963;

Epsilonproteobacteria; Campylobacterales;

	191 V-LILAGTAALLNGLFSLFFPSGWSILLATLIASVGYEIGKAKK 233	19:	윧
	206 IPSLLLAGLSFTIALVVIPGQALFAALLIFLGLLTIRYFFLGKAAK 251	200	¥
190	131 LTNGFVÍGVAVIAYVSMVVHSAVGYIVGSALÞATLQQGMGVÁLVAMFIALLIÞSVÉKHRS 190	131	ř
205	147 WSAWRLISMQIAFHSYMVFGGLTGVAIAELIPFEI-KGLEFALCSLFVTLTLDSCRTKKQ 205	147	~
130	71 AIGTGTIEILLTTFIVNIRHLLMSASIRAKMEDTHPVKKAITAFGITDEVFALVTSQDRR 130	7)	ъ.
146	VGAAPLGAIALTTLLVNFRHVFYAFSFPLHVV-KNPIARFYSVFALIDBAYAVTAARPAG 146	88	¥
70	11 KETDWIRGAAIGSSIAIGYIPASITFGLLAKGTGLTLLETIAMSLFVYÁGASQYMALTLI 70	11	й
α,	28 RRYEIAQGIKTSLAAGIGMYPIGIAFGLLVIQYGYEWWAAPLFSGLIFAGSTEMLVIALV 87	28	₹

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A;Title: Genome sequence of Yersinia pestis, the causative agent of plague. A;Reference number: AB0001; MUID:21470413; PMID:11586360
A;Accession: AP0396
A;Status: preliminary
A;Molecule: Type: DNA
A;Residues: 1-257 <KUR>
A;Residues: 1-257 <KUR>
A;Cross-references: GB:AL590842; PIDN:CAC92498.1; PID:g15981198; GSPDB:GN00: C;Genetics: A;Gene: YP03264
C;Superfamily: hypothetical protein b2682
                                                                                                                                                                                                                                                                                                                                                                                                                                               R;Stover, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; Hickey, adman, S.; Yuan, Y.; Brody, L.L.; Coulter, S.N.; Folger, K.R.; Kas, A.; Larbig, ; Lory, S.; Olson, M.V.
Nature 406, 959-964, 2000
A;Title: Complete genome sequence of Pseudomonas aeruginosa PA01, an opportunist A;Reference number: A82950; MUID:20437337; PMID:10984043
A;Accession: H83390
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A;Experimental source: strain PAO1
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A; Residues: 1-252 <STO>
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C;Date: 15-Sep-2000 #sequence_revision 15-Sep-2000 #text_change 03-Jun-2002
C;Accession: H83390
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;Gene: YPO3264
;Superfamily: hypothetical protein b2682
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RNFNRWYALGVGLTFYIAWNLFTLAGILLGRSIPGLEHLGLDFSIAATFIALVAPLVR--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGWSAWRLISMQIAFHSYWVFGGLTGVAIAELIP-FEIKGLEFALCSLFVTLTLDSCRTK 203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ROAFLRGAVAILPLSLAVAPWGLLAGSMAIEANLTPAEGQGLSAIVFAGAAQLVAIGMLK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RYEIAQGLKTSLAAGLGMYPIGIAFGLLVIQYGYEWWAAPLFSGLIFAGSTEMLVIALVV 88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAAPLGAIALITILIVNFRHVFYAFSFPLHVVKNPIARFYSV---FALIDEAYAVTAARP- 144
  WVSALTVMAMDVRHILYG-
                                     GAIALTTLLVNFRHVFYAFSFPLHVVKNPIARFYS-----VFALIDEAYAVTAAR---
                                                                                                                        QGLKTSLAAGLGMYPIGIAFGLLVIQYGYEWWAAPLFSGLIFAGSTEMLVIALVVGAAPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -NVPTLVCVATSLFCSVLFSHWQ--WSSALVLAGL 231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGAGFFSIIFTTLLLTSQHLLYGMS--LRPVLSPLPGRWRIGLGFLLTDEFFALASQHDR 141
                                                                                   EGITDSLPIVIGYLPVAFAFGLSAVKLGFTPLESIFFSCIIYAGASQFVITALLSAGMSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13.8%; Score 175; DB 2;
24.2%; Pred. No. 1.3e-07;
                                                                                                                                                               13.8%; Score 175; DB 2;
25.8%; Pred. No. 1.3e-07;
tive 38; Mismatches 93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches 104; Indels
  -PALKHRILAKLSGKKTALWAFGLTDEVFAAATTKLMK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2; Length 252,
                                                                                                                                                                  93;
                                                                                                                                                                                                     Length 257;
                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12;
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  134
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branched-chain amino acid transporter BH2910 [imported] - Bacillus halodurans C;Species: Bacillus halodurans C;Species: O1-Dec-2000 #sequence_revision 01-Dec-2000 #text_change 01-Mar-2002 C;Accession: F84013 R;Takami, H.; Nakasone, K.; Takaki, Y.; Maeno, G.; Sasaki, R.; Masui, N.; Fuji Nucleic Acids Res. 28, 4317-4331, 2000 A;Title: Complete genome sequence of the alkaliphilic bacterium Bacillus halod A;Reference number: A83650; MUID:20512582; PMID:11058132 A;Accession: F84013

R.; Masui, N.; Fuji,

'T] .

(strain

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Bacillus halodurans

and

F84013

A;Molecule type: DNA A;Residues: 1-237 <STO> A;Cross-references: GB:AP001517; GB:BA000004; NID:g10175500; PIDN:BAB06629.1; GSPDB:GN00 A;Experimental source: strain C-125

Superfamily: hypothetical protein b2682;

Query Match Matches

Local

Similarity 55; Conserv

Conservative

13.8%; Score 174.5; 23.7%; Pred. No. 1. 48;

Mismatches

1.3e-07; DB 2;

Length 237; Indels

17;

6

Genetics:

A;Status: preliminary

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amino acid permease yqfD [imported] - Lactococcus lactis subsp. lactis (strain C;Species: Lactococcus lactis subsp. lactis C;Date: 23-Mar-2001 #sequence_revision 23-Mar-2001 #text_change 03-Aug-2001 C;Accession: E86826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-235 <STO>
A;Cross-references: GB:AE005176; PID:g12724620; PIDN:AAK05711.1; GSPDB:GN00146
A;Experimental source: strain IL1403
A;Experimental source: strain IL1403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Title: The complete genome sequence of the lactic acid bacterium Lactococcus lactis A;Reference number: A86625; MUID:21235186; PMID:11337471 A;Accession: E86826
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Best Local Similarity
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177 LYLQLISDKTLGLMLQLVMVGITLVLFYFGLIFLPSNLLVLFVTLIACALGVGVKRVFF
                                                                                                                                                  140 ----TAARPAGWSAWRLISMQIAFHSYWVFGGLTGVAIAELIPFEIKGLEFALCSLFV-- 193
                                                                                                                                                                                                        69
                                                                                                                                                                                                                                                      94 GAIALTTLLUNFRHVFYAFSFPLHVVKNPIARFYSVFALI-DEAYAV-------
                                                                                                                                                                                                                                                                                                                                                          34 QGLKTSLAAGLGMYPIGIAFGLLVIQYGYEWWAAPLFSGLIFAGSTEMLVIALVVGAAPL
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                                                                                                                                                                                                     MSIVLSVFLVNSRIILMSMTTASYFKNESILKNILLGTÜLTDESFÄLGMNKONYTEGKLN 128
                                                                                                                                                                                                                                                                                                         QGLKDTMPTVFGYIGIGIAFGMIGHSEGFSVWVILLLSLIVYAGSAQFIMVSMLATHSPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S--FKROYSLTVIÁSLSGALLGVLLFSIPVAILAGIA 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SCRTKKQIPSLLLAGLS-----FTIALVVIPGQA 227
                                              -TLTLDSCRTKKQIPSLLLAGIS---FTIALVVIPGQ--ALFAALL-IFLGLLTIRYFF
                                                                                                 FSWFNASNLLAYLVWALAS-----AIGALLGNLLAN--P-EXLGLGFAVIAMFIGL 176
                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                        13.8%; Score 174.5; DB 2; 25.5%; Pred. No. 1.3e-07; ative 47; Mismatches 92;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                39;
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A; Diu, F; Wollam, C.; Allinger, M.; Doughty, D.; Scott, C.; Lappas, C.; Markelz, B.; Science 294, 323-2328, 2001

A;Title: Genome Sequence of the Plant Pathogen and Biotechnology Agent Agrobacterium tum A;Reference number: A97359; MUID:21608551; PMID:11743194

A;Accession: B97492

A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-234 < KUR>
A;Residues: 1-234 < KUR>
A;Cross-references: GB:AE007869; PIDN:AAK86891.1; PID:g15156113; GSPDB:GN00169

C:Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   azlC family protein [imported] - Agrobacterium tumefaciens (strain C58, Cereon) C;Species: Agrobacterium tumefaciens C;Date: 30-Sep-2001 #sequence_revision 30-Sep-2001 #text_change 18-Nov-2002 C;Accession: B97492 C;Accession: B97492 R;Goodner, B.; Hinkle, G.; Gattung, S.; Miller, N.; Blanchard, M.; Qurollo, B.;
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A;Molecule type: DNA
A;Residues: 1-239 <HEI>
A;Cross-references: GB:AE004427;
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G82388
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                                                                                                                                                        R;Heidelberg, J.F.; Eisen, J.A.; Nelson, W.C.; Clayton, R.A.; chardson, D.; Ermolaeva, M.D.; Vamathevan, J.; Bass, S.; Qin, l, R.R.; Mekalanos, J.J.; Venter, J.C.; Fraser, C.M. Nature 406, 477-483, 2000
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                                                                  A,Title: DNA Sequence of both chromosomes of the cholera pathogen A,Reference number: A82035, MUID:20406833, PMID:10952301 A,Accession: G82288 A;Status: preliminary
                                                                                                                                                                                                                                                                                                             AzlC family protein VCA1002 [imported]
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;Superfamily: hypothetical protein b2682
                                                                                                                                                                                                                                           Species: Vibrio cholerae
;Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 01-Mar-2002
;Accession: G82388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gene: AGR_C_2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AVTAAR-----PAGWSAWRLISMQIAFHSYWVFGGLTGVAIABLIPFEIKGLEFALCSL 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VGAAPLGAIALTTLLVNFRHVFYAFSFPLHVVKNPIA------RFYSVFALIDEAY 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PVTLTLDSCRTKKQIPSLLLAGLSFTIALVVIPGQALFAA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AVTAAR-----PAGWSAWRLISMQIAFHSYWVFGGLTGVAIAELIPFEIKGLEFALCSL 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             THPASWTALGFAALLVNLRHVLMSAS------IAGKLDDFKGWRKYAAMLVLTDESW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KRAELIAGLRSAAPLLVAMVPIGVVFGAVAIGKGLSPLEASLMSLLVFAGGSQFVAMDLW
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                                                                                                                                                                                                                                                                                                                                                                                                                               FIVILMGFWKGRETGLVLLASASAACLTHALVPGAWYIAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FVTLTLDSCRTKKQIPSLLLAGLSFTIALVVIPGQALFAA 231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
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; Pred. No. 3.6e-08;
46; Mismatches 91
       GB:AE003853; NID:g9658442; PIDN:AAF96898.1;
                                                                                                                                                                                                                                                                                                                    - Vibrio cholerae (strain N16961 serogroup
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IAGKLDDFKGWRKYAAMLVLTDESW 116
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H.; Dragoi, 1
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                                                                                                                                              Vibrio cholerae
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I.; Sellers,
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           GSPDB:GN001
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RESULT 12 H83390

hypothetical

protein

PA2039

[imported]

Pseudomonas

aeruginosa

(strain

PAO1)

뮍

168

MORRIPVRNLLIILAVVAVSFFLLLTVMSQSLAVLFATLL

207

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A;Experimental source: serogroup O1; strain C;Genetics:
A;Gene: VCA1002
A;Map position: 2
C;Superfamily: hypothetical protein b2682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          conserved hypothetical protein SP0146 [imported] - Streptococcus pneumoniae (strain TIGE C;Species: Streptococcus pneumoniae
C;Species: Streptococcus pneumoniae
C;Species: O3-Aug-2001 #sequence revision O3-Aug-2001 #text_change O3-Aug-2001
C;Accession: G95016
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A;Experimental source: strain TIGR4
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Best Local S
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           TKKOIP-----SLLLAGLSFTIALVVIPGQ--ALFAALL
                                                                                        NPMWMHGNNLNSYVA-
                                                                                                                                               ---WSAWRLISMQIAFHSYWVFGGLTGVAIAELIPF-EIKGLEFALCSLFVTLTLDSCR- 201
                                                                                                                                                                                                                     IAMTVFLINLR----LFLLSLHASTYFRHTSLWYNIGMSSILTDETYGVLMGELAHTDKV 111
                                                                                                                                                                                                                                                                                   IALTTLLVNFRHVFYAFSFPLHVVK--NPIARFYSV---FALIDBAYAVTAARPAG----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              14.0%; Score 177.5; DB 2; ilarity 28.6%; Pred. No. 6.7e-08; Conservative 36; Mismatches 82;
                                                                                        -WFVGTVVGTALGGĹLÞNÞĖÍFGLDFALVGMFIGIFASQFQI 167
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C;Superf
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A;Residues: 1-245 <STO>
A;Residues: 1-245 <STO>
A;Cross-references: GB:AE005174; NID:g12517123; PIDN:AAG57791.1; GSPDB:GN00145;
A;Experimental source: strain O157:H7, substrain EDL933
C;Genetics:
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A;Accession: C85916
A;Status: preliminary
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A,Title: Complete genome sequence of enterohemorrhagic Escherichia coli 0157:H7
A,Reference number: A99629, MUID:21156231, PMID:11258796
A;Accession: H91071
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R;Hayashi, T.; Makino, F
gasawara, N.; Yasunaga,
DNA Res. 8, 11-22, 2001
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A;Residues: 1-245 <HAY>
A;Cross-references: GB:BA000007; PIDN:BAB36967.1; PID:g13363015;
A;Experimental source: strain O157:H7, substrain RIMD 0509952
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A;Molecule type: DNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TKKQIPSLLLAGLSFTIALV-VIPGQALFA---ALL--IFLGLLIT--IRYFFLG 247
                                                                                                         GWSAWRLISMQIAFHSYWYF----GGLTGVAIAELIPFEIKGLEFALCSLFVTLTLDSCR 201
                                                                                                                                                                               GAIALTTULVNFRHVFYAFSFPLHVV----KNPIARFYSVFALIDEAYAVTAAR----PA
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                                   TKKQIPSLILAGLSFTIALV-VIPGQALFA---ALL--IFLGLLT--IRYFFLG 247
                                                                      RWSENWMIGIAFSSWSSWVFGTVIGAFSGSGLLQGYPAVEAALGFMLPALFMSFLLASFQ
                                                                                                                                                                                                                    EGCKDSLPIVISYIPVAFAFGLNATRLGFSPLESVFFSCIIYAGASQFVITAMLAAGSSL
RKQ--
                                                                                                                                                                                                                                                                                                                                                                 hypothetical protein b2682
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asunaga, T.; Kuhara, S.; Shiba, T.; Hattori, M.; Shinagawa, H.
                                                                                                                                                                                                                                                                                             Conservative
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29.1%; Pred. No. 1.4e-09;
ative 41; Mismatches 95
 SLCVTAALVGALAGVTLFSIPVAILAGIVCGCLTALIQAFWQG
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                                                                                                                                                                                                                                                                                         41;
                                                                                                                                                                                                                                                                                                            Score 198; DB 2;
Pred. No. 1.4e-09;
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A;Molecule type: DNA
A;Residues: 1-234 <KUR>
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hypothetical protein b2682 - Escherichia coli (strain K-12)
C;Species: Escherichia coli
C;Species: Escherichia coli
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 01-Mar-2002
C;Accession: C65048
R;Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Perna, N.T.; Burland, V.; I
A.; Rose, D.J.; Mau, B.; Shao, Y.
Science 277, 1453-1462, 1997
A;Title: The complete genome sequence of Escherichia coli K-12.
A;Reference number: A64720; MUID:97426617; PMID:9278503
A;Accession: C65048
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Cross-references: GB:AE000353; GB:U00096; NID:g1789037; A;Experimental source: strain K-12, substrain MG1655 C;Superfamily: hypothetical protein b2682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Molecule type: DNA
A; Residues: 1-245 <BLAT>
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                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
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Best Local Similarity
195
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                                                                                                                                                                                                                77 WIAALTVMAMDVRHVLYGPSLRSRIIQRLQKSKTALW--AFGLTDEVFAAATAKLVRNNR 134
                                                                                                                                                                                                                                                                 94 GAIALTILLVNFRHVFYAFSFPLHVV----KNPIARFYSVFALIDEAYAVTAAR----PA 145
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                                                                                                                                                                                                                                                                                                                                                                                                                                         68;
                                                                                                                                                                                                                                                                                                                        EGCKDSLPIVISYIPVAFAFGLNATRLGFSPLESVFFSCIIYAGASQFVITAMLAAGSSL
                                                                                                        RWSENWMIGIAFSSWSSWVFGTVIGAFSGSGLLQGYPAVEAALGFMLPALFMSFLLASFQ
                                                                                                                                                         GWSAWRLISMQIAFHSYWYF----GGLTGVAIAELIPFEIKGLEFALCSLFVTLTLDSCR 201
                                                    TKKQIPSLLLAGLSFTIALV-VIPGQALFA---ALL--IELGLLT--IRYFFLG 247
RKQ-----SICVTAALVGALAGVTLFSIPVAILAGIVCGCLTALIQAFWQG
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                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
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branched-chain amino acid permease Atu1082 [imported] - Agrobacterium tumefaciens C;Species: Agrobacterium tumefaciens C;Species: Agrobacterium tumefaciens C;Species: Agrobacterium tumefaciens C;Date: 11-Jan-2002 #sequence_revision 11-Jan-2002 #text_change 18-Nov-2002 C;Accession: AIZ709
R;Wood, D.W.; Setubal, J.C.; Kaul, R.; Monks, D.; Chen, L.; Wood, G.E.; Chen, Y.; erage, G.; Gillet, W.; Grant, C.; Guenthner, D.; Kutyavin, T.; Levy, R.; Li, M.; N.; Karp, P.; Romero, P.; Zhang, S.
Science 294, 2317-2323, 2001
A;Authors: Yoo, H.; Tao, Y.; Biddle, P.; Jung, M.; Krespan, W.; Perry, M.; Gordon-#cclell (strai

Gordon-Kamm

ster, E.W. A;Title: The Genome of the Natural Genetic Engineer Agrobacterium tumefaciens C58 A;Reference number: AB2577; MUID:21608550; PMID:11743193 A;Accession: AI2709

A; Experimental source: strain C; Genetics: A;Cross-references: GB:AE008688; PIDN:AAL42095.1; A;Experimental source: strain C58 (Dupont) PID:g17739477; GSPDB:GN00186

A;Gene: Atu1082 A;Map position: C;Superfamily: h Map position: circular chromosome; Superfamily: hypothetical protein **b**2682

밁 Query Match
Best Local Similarity
Matches 55; Conserv 28 σ RRYEIAQGLKTSLAAGLGMYPIGIAFGLLVIQYGYEWWAAPLFSGLIFAGSTEMLVIALV KRAELIAGLRSAAPLLVAMVPIGVVFGAVAIGKGLSPLEASLMSLLVFAGGSQFVAMDLW Conservative 14.3%; 46 Score 181; DB 2; Pred. No. 3.6e-08; 6; Mismatches 91; Length Indels Gaps წ 87

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conserved hypothetical integral membrane protein HP1331 - Helicobacter pylori (strain 26 C;Species: Helicobacter pylori
C;Bete: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jun-2000
C;Accession: C64686
R;Tomb, J.F.; White, O.; Kerlavage, A.R.; Clayton, R.A.; Sutton, G.G.; Fleischmann, R.D.
Peterson, S.; Loftus, B.; Richardson, D.; Dodson, R.; Khalak, H.G.; Glodek, A.; McKemne son, J.D.; Kelley, J.M.; Cotton, M.D.; Weidman, J.M.; Fujii, C.; Bowman, C.; Watthey, L.
Nature 388, 539-547, 1997
A;Authors: Wallin, E.; Hayes, W.S.; Borodovsky, M.; Karpk, P.D.; Smith, H.O.; Fraser, C.
A;Title: The complete genome sequence of the gastric pathogen Helicobacter pylori.
A;Accession: C64686
                                                            A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-228 <ARN>
A;Cross-references: GB:Al
A;Experimental source: 81
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                                                                                                                                                                          C;Accession: F71831
R;Alm, R.A.; Ling, L.S.L.; Moir, D.T.; King, B.L.; Brown, E.D.; Doig, P.C.; Smith, ives, C.; Gibson, R.; Merberg, D.; Mills, S.D.; Jiang, Q.; Taylor, D.E.; Vovis, (Nature 397, 176-180, 199)
Nature 397, 176-180, 1999
A;Title: Genomic sequence comparison of two unrelated isolates of the human gastridars comparison of two unrelated isolates of the human gastridars for number: A71800; MUID:99120557; PMID:9923682
A;Accession: F71831
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                                                                                                                                                                                                                                                                                                                                  ypothetical protein jhp1251 - Helicobacter pylori
,Species: Helicobacter pylori
,Variety: strain J9
,Date: 12-Feb-1999 #sequence_revision 12-Feb-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Cross-references: GB:AE000634; GB:AE000511; NID:g2314489; PIDN:AAD08372.1; Superfamily: hypothetical protein b2682
                                                                Cross-references: GB:AE001548; Experimental source: strain J99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                161
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NFRHVFYAFSFELHVVKNBIARF-YSVFALIDEAYAV--TAARPAGWSAWRLI-SMQIAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HSYWVFGGLTGVAIAELIPFEIKGLEFALCSLFVTLTLDSCRTKKQIPSLLLAGLSFTIA 219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAROTCYALSM-LDRFKNTKWRLPYLAHALTDETFALLNLYAPKEGVSEKDFIFSISLLN 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LGYLLMGMTFGMLLVQQGYDYKVALFMSLF1YAGAVQFVA1TLLSAQASLMNVVIVSLLV
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hypothetical
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Pred. No. 9.2e:
36; Mismatches
                                                                                        GB:AE001439;
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                                                                                           NID:g4155845;
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                                                                                             PIDN:AAD06824.1;
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                                                                                                                      80
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                                                                                    HSYMVEGGLTGVAIAELIPFEIKGLEFALCSLFVTLTLDSCRTKKQIPSLLLAGLSFTIA
CLALFGTEYFLLIALVLMVLALILFR
                                                                                                                    NARQTCYALSM-LDRFKNTKWRLPYLAHALTDETFALLNLYAPKKGVNETDFMFSISLLN
                                                                                                                                                                                                         TGWXBIGIAFGTTAIQAGXBWWAABTSSGTIFAGSTEWTAITTAGATATTTTTA
                              LVVIPGQALF --- AALLIFLGLLTIR 242
                                                           HSYMIFGSLVGSLVGSHFSFDTQGMEFVMTAIFIVLFMEQYKRNTNHKNAWL-GIAIAVV
                                                                                                                                                                                LGYLLMGMTFGMLLAQQGYDYKVALFMSLF1YAGA1QFVAITLLSAQASLMNVVIVSLLV
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29.6%; Pred. No. 2.7e-
tive 41; Mismatches
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hypothetical protein HI1738 - Haemophilus influenzae (strain Rd KW20)
C;Species: Haemophilus influenzae
C;Species: Haemophilus influenzae
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 28-Jul-2000
C;Accession: F64041
R;Fleischmann, R.D.; Adams, M.D.; White, O.; Clayton, R.A.; Kirkness, E.F.; Ker; Gocayne, J.D.; Scott, J.; Shirley, R.; Liu, L.I.; Glodek, A.; Kelley, J.M.; W.; Gocayne, J.D.; Scott, J.; Shirley, R.; Liu, L.I.; Fuhrmann, J.L.; Geoghagen, J., D.M.; Brandon, R.C.; Fine, L.D.; Fritchman, J.L.; Fuhrmann, J.L.; Geoghagen, J.Science 269, 496-512, 1995
A;Authors: Gnehm, C.L.; McDonald, L.A.; Small, K.V.; Fraser, C.M.; Smith, H.O.; A;Authors: Gnehm, C.L.; McDonald, L.A.; Small, S.V.; Fraser, C.M.; Smith, H.O.; A;Reference number: A64000; MUJD:95350630; PMID:7542800
A;Accession: F64041 A; Molecule type: DNA A; Residues: 1-244 < TIGR> A; Status: nucleic acid sequence not shown; translation Query Match Best Local Similarity Matches 57; Conser Cross-references: GB:U32846; GB:L42023; NID:g3212237; Superfamily: hypothetical protein b2682 45 GMYPIGIAFGLLVIQYGYEWWAAPLFSGLIFAGSTEMLVI-ALVVGAAPLGAIALTTLLV Conservative 17.9%; 27.5%; 50; Score 227.5; DB 1; Pred. No. 4.3e-12; 50; Mismatches 87; not Indels Length PIDN: AAC23382.1; shown 13; Gaps E.F.; Kerlavage, , J.M.; Weidman, oghagen, N.S.M. PID:g1574596; T g .; Venter, e Rd.

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RESULT 5

CB5916
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C;Species: Bacherichia coli
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7 372 2 JQ2135 508 2 AH2688 7 525 2 C97470 6 334 2 B99997 2 2 59578 4 487 2 E96782 4 487 2 E96782 4 481 2 D87482 1 481 2 D87489 1 481 2 D87489 1 481 2 D87489 1 481 2 D87489 1 481 2 D87489 2 60 2 E88133 1 481 2 D87489 2 60 2 E88133 1 481 2 D87489 2 60 2 E88174 2 6 9 7 7 7 7 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8	99	99.5	100	100	100	101.5	102	103	103	106.5	107	108	108.5	110.5	110.5	110.5
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JQ2135 AH2688 G97470 B96997 T35133 JH2542 B96782 B96782 B96782 B83333 D87467 T51467 T51467 T517684 F97382	233	4 U	541	541	260	417	481	481	408	487	399	256	334	525	508	372
	N	N) (N	N	N	N	N	N	N	N	N	N	N	N	N	N
NADH2 (Na+/H+ probab) permeal hypoth hypoth hypoth NADH dd hypoth hypoth hypoth hypoth hypoth hypoth hypoth hypoth hypoth	F97382	A75121	F97684	AH2909	E83174	T51467	C95920	D87489	B83333	E96782	AH2542	T35133	B96997	C97470	AH2688	JQ2135

ALIGNMENTS

Fire circaer parameters:	283366	1177
		RESULT 1 G69592
00000		branched-chain amino acid transport azlC - Bacillus subtilis
ch 0%		C;Species: Bacillus subtilis
ch 100%		C:Accession: G69592; T44777
6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		C.; Bron, S.; Brouillet, S.; Bruschi, C.V.; Caldwell, B.; Capuano, V.; Carter, N.M.; Chc A.; Ehrlich, S.D.; Emmerson, D.T.; Entian, K.D.; Errinoton, J.; Fabret, C.; Barrari, E.
		그. ㅂ.
		iech, J.; Harwood, C.R.; Henaut, A.; Hilbert, H.; Holsappel, S.; Hosono, S.; Hullo, M.F. Koetter, P.; Koningstein, G.; Krogh, S.; Kumano, M.; Kurita, K.; Lapidus, A.; Lardinois,
r of results predicted by chance	hance to have a	A; Authors: Lauber, J.; Lazarevic, V.; Lee, S.M.; Levine, A.; Liu, H.; Masuda, S.; Maueel V. M.; Ogawa, K.; Ogiwara, A.; Ondera B.; Dark S.H.; Darro, V.; Dohl T.M.; Dorretelle
of the score of the	result being printed, istribution.	Rieger, M.; Rivolta, C.; Rocha, E.; Roche, B.; Rose, M.; Saddie, Y.; Sato, T.; Scanlon, A; Authors: Schleich, S.; Schroeter, R.; Scoffone, F.; Sekiquchi, J.; Sekowska, A.; Serov
SIMMARIES		akeuchi, M.; Tamakoshi, A.; Tanaka, T.; Terpstra, P.; Tognoni, A.; Tosato, V.; Uchiyama,
		A; Authors: Yoshikawa, H.; Zumstein, E.; Yoshikawa, H.; Danchin, A. 1. The complete General Sections of the Gram-positive heaters and Bacillus subtilis
DB ID	Description	A;Reference number: A69580; MUID:98044033; PMID:9384377
1 G69592	branched-chain ami	A;Status: nucleic acid sequence not shown; translation not shown
2 131631		A; Molecule type: DNA
7 F04041	hypotherical prote	A.KEBIQUES: 1-254 AKUNV A.KEBIQUES: 1-254 AKUNV
2 C85916		A, Experimental source: strain 168
2 H91071	hypothetical prote	R; Belitsky, B.R.; Gustafsson, M.C.U.; Sonenshein, A.L.; von Wachenfeldt, C.
2 AT2709	hranched-chain ami	
2 B97492	azlC family protei	A; Reference number: 22283; MUID:9431495; PMID:9287000
2 G82388	AzlC family protei	A; Accession: T44777
0 48336U 0 400669	hypothetical prote	A.Status: translated from GB/EMBL/DDBJ
2 AF0396	probable amino aci	A, POLICULE CYPE: LAND
	amino acid permeas	A;Cross-references: EMBL:Y11043; NID:g1926275; PIDN:CAA71940.1; PID:g1926281
	branched-chain ami	tal source: strain 1A1
	transport proteins	C;Genetics:
2 AE0945	probable exported	C.Superfamily: hypothetical protein b2682
	hypothetical prote	
2 B97608	azlo family protei	Query Macon 18 9%; Score 240; DB 1; Length 254; Best Local Similarity 30 5%; Dred. No. 3 9e-13;
	conserved hypothet	vative 44; Mi
	branched-chain ami	
2 C818/7 2 G75494	nypothetical prote	OY 45 GMYPIGIAFGLIVIQYOYEWWAAPLFSGLIFAGGTEMLVIALVUGA-APLGATALTTLIV 103
	AzlC-related prote	Db 42 GFLFIGIAYGIFMHSLQFSAIYDIIMSFMIFAGSWEFVAANFLLGAINFMNALFL-TLWV 100
	probable amino aci	ı.
2 C86864 2 714545	Na+/H+ antiporter	CY 104 NERHOYATSEPLHVVKNPIARYSVFALIDEAYAVTAARPAGW-SAWRLISMQIAPH 160